

Junior Co-operative
VARIETY TESTS
1944



Published by
SASKATCHEWAN CO-OPERATIVE PRODUCERS LIMITED
HEAD OFFICE — REGINA
March, 1945

JUNIOR CO-OPERATIVE VARIETY TESTS

WHEAT, BARLEY
AND FLAX



1944

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FOREWORD

**By the President of the Saskatchewan Co-operative
Producers Limited**

THIS report contains the results of the tenth consecutive Junior Co-operative Variety Test project conducted by Saskatchewan Co-operative Producers Limited in co-operation with the University of Saskatchewan.

More than 260 Junior Co-operators, who were already doing their share to supply Saskatchewan's part of the Allied war production, found time and energy to supervise 1944 variety tests. During this past year six new varieties and twelve older varieties of grain were tested under prevailing conditions in the Province.

In the interest of agricultural research these young people, even younger than in the previous years, carried out the work which they undertook in the same capable and efficient manner as the Junior Co-operators have always done in the past.

Many of the boys and girls who did this scientific work in earlier years are now men and women in uniform, fighting on foreign soil to preserve democracy. Our sincere wish is that soon they will have completed the task they set out to do and be landed safely back on Canadian shores.

We may rest assured that the boys and girls who took on the additional work of supervising a 1944 variety test at a time when they were already over-burdened will not shirk the responsibilities of manhood and womanhood. On behalf of Saskatchewan Co-operative Producers Limited I wish to express my appreciation and thanks to the co-operators who did their part in carrying the 1944 Variety Test programme to a successful conclusion.

J. H. WESSON.

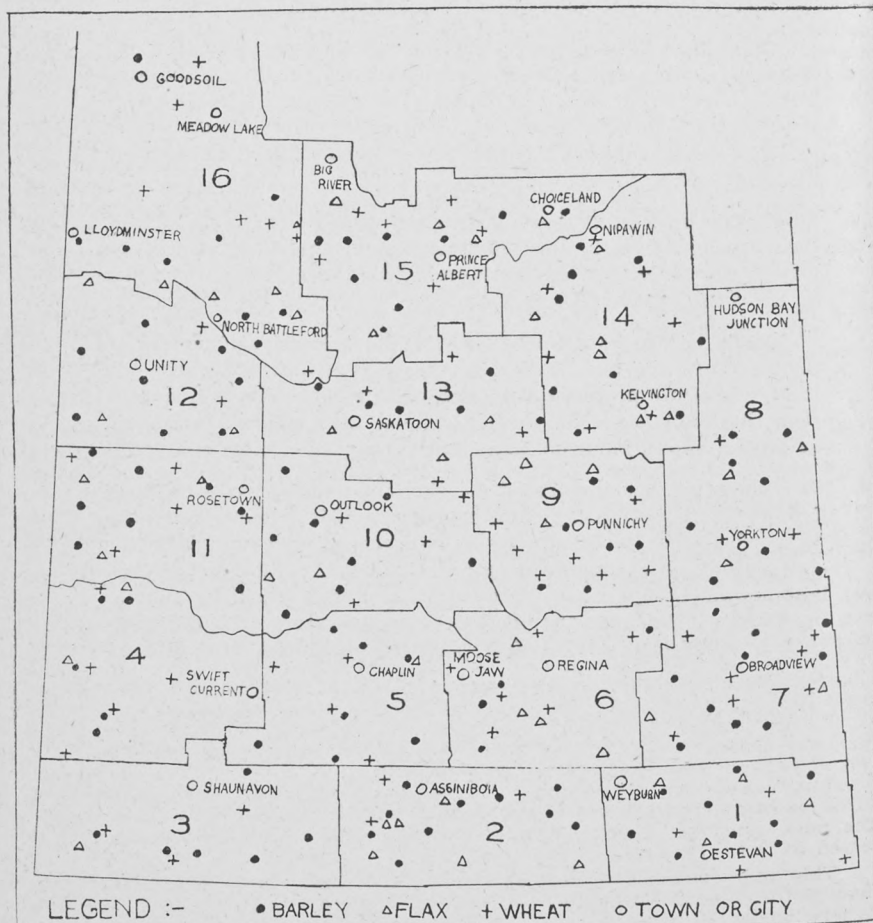
INTRODUCTION

PURPOSE OF THE WORK

SASKATCHEWAN is no longer a pioneer Province. Its farmers are faced with the problems created by such bacteria and spores that find it possible to multiply and cause damage to our crops. Some of the greatest losses suffered in the West have been caused by the rust spores. Four crops in the past thirty years, namely 1916, 1927, 1935 and 1938 were ravaged severely by rust and hundreds of millions of dollars were lost by the Western farmers. Yet rust resistance is only one of the many qualities our grains must have in order that we may be assured they will reach their final destination in a state of high quality.

For the reader who has not made a study of the desirable characteristics looked for in our grains, it might be well to mention a few of them. Among those we find resistance to stem rust, leaf rust, loose smut, covered smut, after-harvest sprouting, shattering, weathering, common root rot,

MAP SHOWING LOCATION OF TESTS



spring frost injury and a degree of drought. The chosen varieties must be good yielders, have sufficient bushel weight, strength of straw with desirable length, and plump kernels with lustre. In addition to the above, wheat must have certain milling and baking qualities; oats, low percentage of hull; barley, straw and neck strength and malting or feed quality; and flax, wilt resistance and high oil content.

Since grain growing started in the prairies, the various classes of grains have been going through an evolution and one variety has been replaced by another. Taking wheat as an example, we may say Red Fife was the first variety to be grown extensively in Saskatchewan. It was replaced by Marquis, an earlier maturing variety, which escaped more of the damage from frost and rust. After the harvest of 1927, with its tremendous loss from rust, plant breeders worked at an accelerated rate to bring out a variety of wheat that embodied all the good qualities of Marquis and lacked its poor qualities, especially its susceptibility to rust. A few fairly good varieties were brought into existence and gained prominence for a few years. However, it was not until 1936 that a variety of wheat was distributed to the farmers, even in small quantities, to take the place of Marquis.

GENERAL ORGANIZATION AND LOCATION OF TESTS

Saskatchewan Co-operative Producers Limited is a producers' co-operative, consisting of over 100,000 farmers. It is a centralized type of co-operative with administration directed from a Head Office at Regina and the control coming from the members. For the purpose of administration and control the organization has divided the part of the province in which agriculture is carried on, into 16 districts. Each district is again divided into 10 or 11 sub-districts.

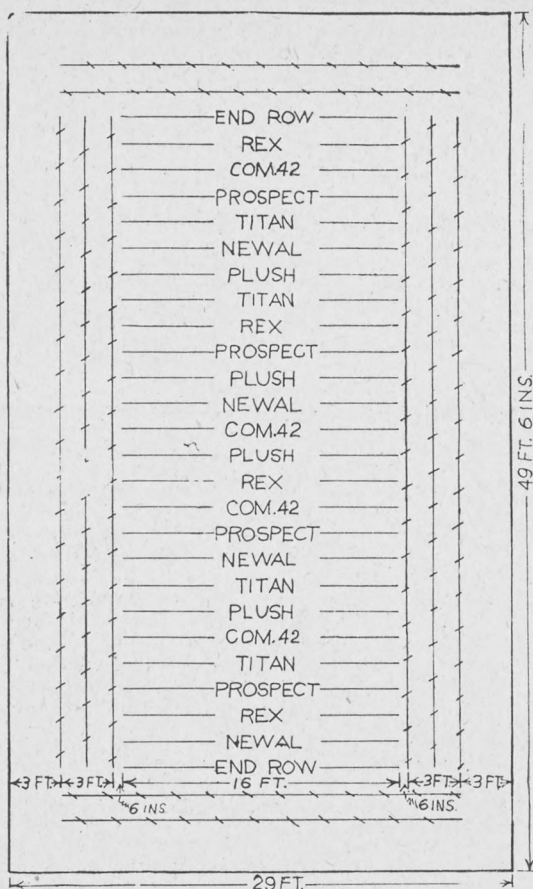
In order that the varieties may have sufficient trial, they must be grown under as many combinations of soil, climatic and topography as possible. The original and continued policy governing the distribution of the tests has been to have two in every sub-district, thus giving a total of approximately 330, over the Province. There was a deviation this year from that policy due to the fact that it was not possible to find two young people who could spend the time on such a project in each sub-district. In a few sub-districts there were no tests, while in others there were more than two. The total tests for which seed was sent out this year numbered 263, being made up of 124 barley tests, 83 wheat tests, 56 flax tests. An attempt was made to distribute the three individual classes of grain as well as possible throughout the whole project.

DESCRIPTION OF TEST

It was decided to have a very simple form of test for three classes of grain chosen because it was known the supervisors who would undertake the work would be younger than in former years and would have limited time to devote to the project. Wheat, barley and flax were chosen to be tested. In each test two new varieties were in competition with four older varieties. In the wheat test the new varieties were Carleton and Mida; in the barley, Compana and Titan, and in flax, Arrow and Crystal.

The plans used for the three classes of grain were uniform and in each case the test occupied a space of ground 49 feet 6 inches in length and 29 feet in width. Within this area were four 16-foot rows of each of the six varieties under test. This made a total of 24 rows. The spacing between these rows was 18 inches. Along the first and last rows of the group was a buffer row of a similar class of grain, but a different variety than those under test. This brought the total of 16-foot rows up to 26. Extending along each end of the 16-foot rows were three rows of winter wheat. The first was spaced six inches from the end of the 16-foot row and the other two rows had 18-inch spacing. Across both ends of the block were two rows of winter wheat with 18-inch spacing. This was surrounded by a 3-foot pathway, beyond which was seeded two or three drill widths of oats. The oats acted as a wind protection and in the case of the wheat test served as a sawfly trap.

This year five of the best randomizations were used. This means that five of the best methods of distributing the varieties, whereby any one variety would be next to each of the others only the minimum number



PLAN OF TEST

Five different randomizations were used.

of times, were employed. The reason for having five different randomizations instead of one standard arrangement was to reduce the chances of bias which might possibly result if only one plan were used throughout.

SUPERVISION AND CARE OF THE TEST

As in the past the supervision and care of most of the tests were exercised by teen-age boys and girls. These young people were carefully selected by the delegates in the various sub-districts. In a very limited number of cases a test plot has been on a farm every year since the project was inaugurated ten years ago. Older brothers or sisters supervised the earlier ones.

Everything was done to reduce the possibilities of errors to a minimum. Detailed information for laying out the test was supplied to the co-operator together with a colored plan, indicating the position of each row within the test. Sufficient seed for each row was weighed and placed in a numbered envelope with the name of the variety stamped on it. Enough winter wheat was supplied for the border rows. Twenty-four numbered stakes were included

to mark the twenty-four rows and two stakes marked "X" to indicate the short buffer rows. The instructions covered preparation of the seed bed, depth of seeding, time of seeding and care of the plot during the growing season.

Three reports were required to be filled in by the co-operator during the growing and maturing seasons. The first report covered the progress of the plot up to June 15, in the case of barley or wheat, and June 30 for flax. The information required in this report covered date of seeding, cultural treatment, soil type, depth of soil moisture, amount of rainfall from seeding to June 10, dates of emergence, uniformity of stand and the amount of damage, if any, from cutworms, grasshoppers or soil drifting.

The second progress report for barley or wheat covered the time from the first report to July 15 and for flax July 30. The information sought in the report covering wheat and barley tests included the date of heading, insect damage not included in first report, weed interference, the number of heads of loose smut, percentage of heads of covered smut in each row and the percentage of rust appearing on each variety. The second report covering the flax test was to record the amount of damage (not mentioned in the first report) done by cutworms, wireworms, grasshoppers, soil drifting, and any weed interference.

The final progress report covered the filling and ripening period of the grain. This information requested in the case of wheat and barley covered the dates of heading, not previously mentioned, average height of plants in inches, straw, date when most heads were ripe, an estimation of the loss from shattering, percentage of heads of covered smut in each row, an estimation of bird damage, percentage of stem rust and leaf rust and the date of harvesting. The final flax report asked for information pertaining to the date when most of the bolls were ripe, the date when harvested, the percentage of damage done by wilt, canker, frost and grasshoppers, the percentage of stem rust, weed interference and the average height of plant.

The report forms were made so that the co-operator could report on each row individually and include any special remarks he wished to make. Instructions on how to fill in the report were plainly printed on the other side. A summary on rainfall was requested in all three reports.

Shortly before harvest, instructions were sent to each co-operator, explaining how to tell when the grain was ripe enough to harvest, how to harvest it, how to dry and cure it, and finally how to wrap each row individually, enclosing the stake for the corresponding row in its proper package. The co-operator was instructed to take the bundles to his nearest Pool elevator agent who had been sent special tags and instructions to ship the sheaves to the Head Office at Regina.

Upon the arrival of the sheaves at Regina they were threshed, the grain weighed in grams, and the weights recorded on a special threshing report form. After weighing, the grain from the four rows of the same variety was mixed thoroughly and cleaned in preparation for grading and establishing the bushel weight in pounds. All grading and inspection work was done and recorded by experienced inspectors.

Dr. J. B. Harrington, Professor of Field Husbandry, University of Saskatchewan, arranged and supervised the project, as in previous years.

The threshing, compiling, summarizing and statistical work was carried out at Head Office of Saskatchewan Co-operative Producers Limited in Regina, under the direction and supervision of W. L. Oddie, B.S.A.

ANALYSIS OF DATA

The Saskatchewan Cereal Variety Committee, formed in 1928, has devised and improved a scheme of provincial zonation for cereal varieties. This committee meets annually to draw up and make public varietal recommendations for the various zones. Its recommendations are based on the results of all available accurate comparative tests. A summary of the results of the Junior Variety Tests conducted by Saskatchewan Co-operative Producers Limited in 1944 was forwarded to this committee for its use, as in previous years. The cereal variety zones are illustrated on page 41.

In compiling and analyzing the tests, the cereal variety zones were used. Due to the fact there were too few tests in some zones to insure a

dependable average, a system of grouping adjacent zones with similar climatic conditions was employed. Since neither the number of wheat nor flax tests was as large as the number of barley tests, a more extensive grouping of zones had to be carried out for these crops. Because of the wide variation in yield in Cereal Variety Zone 1A, a division of this zone was made on a basis of precipitation and yield.

FACTS TO REMEMBER WHEN READING AND STUDYING ANALYSIS AND RESULTS

The results of tests during a single year in the Province or in any one zone, no matter how carefully and accurately the tests have been carried out, should not be taken as completely satisfactory and final in choosing or recommending a variety. An inferior variety may show up better than a superior variety under a season of extreme weather conditions, which possibly occurs once in a number of years. For this reason it is best to base one's choice or recommendation on the results of several years' tests. At this point the reader, in making his final choice, is referred to the "Varieties of Grain Crops for Saskatchewan, 1945," a printed pamphlet which may be obtained free on request from the University of Saskatchewan, Saskatoon, the Provincial Department of Agriculture, Regina, the nearest Experimental Station, or Saskatchewan Co-operative Producers Limited, Regina.

Grain Yield.—Modern variety tests are planned in a mathematical manner, so that all varieties will be placed and treated as nearly as possible alike, that the test will be sensitive and reveal statistically any superiority of a variety which may exist. In the analysis of the yields of the grain, calculations on the yield results were made on the data obtained within each zone in order to determine the necessary difference between varieties. If the difference between two varieties equalled or exceeded the necessary difference, then the higher yielding variety is considered to be significantly higher yielding than the other, under the conditions of the test and irrespective of soil variability.

In analyzing the grain yield results in this report the averages of all tests in each zone were taken as the basic performance.

Earliness.—By earliness we mean the length of time from date of sowing until the variety is ripe. This is an important characteristic, especially in areas where early fall frosts are a damaging factor.

Straw Strength.—Loss may be sustained if a variety is very weak in the straw. Straw strength was reported on a basis of 10—0. If the plants in a row of one variety were straight and erect, their straw strength was recorded as 10. If the plants were slightly leaning or curved at the base a value of nine was given. The greater the lean and the greater the proportion of leaning plants the lower would be the rating, until, if the plants lay flat on the ground their straw strength would be recorded as 0.

Neck Strength.—When the straw breaks off just below the head it is described as lack of neck strength. It occurs in barley. Neck strength was reported on a basis of 1, 2 and 3. One was given if none of the plants in the row broke at the neck. Where a few drooped or broke off at the neck 2 was given, and if the number was more numerous, 3 was given.

Loose Smut.—The number of heads of loose smut was recorded by the supervisor. Taking the total number of attacked heads in the zone as 100 percent, the percentage for each variety was calculated on that total.

Covered Smut.—The percentage of covered smut was calculated on the number of heads in the row.

Rust.—A rust scale was sent to the supervisors to be used as a guide in estimating the percentage of rust. When 37% of the surface of the part of the plant under inspection was covered with rust, it was recorded as being 100% infected. The figure 37% was arbitrarily selected. The scale illustrates amounts of 5, 10, 25, 40, 65 and 100 per cent. infection.

INDIVIDUAL RESULTS

The individual results are shown in Tables Nos. 18, 32 and 43. These results are arranged according to Wheat Pool districts and are published in this booklet so that a co-operator may study his own results in comparison with those of his fellow co-operator. For example, Kenneth R. Truscott

of Alameda, who supervised a barley test in District 1, sub-district 3, looks over the results of his test and finds that Newal outyielded Rex by 14.7 bus. per acre. The necessary difference for his test was 3.07 bus. Since 14.7 bus. is more than 3.07 bus., Newal yielded significantly more than Rex, under the conditions of the test and irrespective of soil variability. After examining his own results, Kenneth Truscott may turn to the results of Allan M. Dunnigan who conducted a barley test in the same sub-district. Here he finds that Newal, again, yielded significantly higher than Rex. Upon examination of the results of these tables one will discover that the varieties do not retain similar relationships in the different areas of the province. Even the tests which are relatively close together sometimes differ widely in their results. The most important causes of these differences are differences in soil, in local weather conditions or in the date of sowing. The date of seeding is something we have partial control over and it has been proven that a few days difference in seeding in the same field may give noticeable differences in results. Nevertheless, an accurate indication of the comparative varietal performances, under the existing conditions where the test was conducted, is obtained.

There are several factors influencing the commercial grades of grain, some being more important than others. The most important factor is weight per measured bushel. In addition to this the grade may be lowered by such defects as bleached, shrunken or green kernels. By placing abbreviations under the column headed "Grading Remarks" an attempt has been made to convey to the reader the reason for giving the certain grades. The following abbreviations have been used to indicate the various defects:

B.p.—Black point	Sl.f.—Slightly frosted	Stn.—Stained
S.b.p.—Some black point	Sl.sp.—Some sprouted	S.stn.—Slightly stained
Bl.—Bleached	G.—Green	B.stn.—Badly stained
S.bl.—Some bleached	V.g.—Very green	St.—Starchy
B.bl.—Badly bleached	Sl.g.—Slightly green	S.st.—Some starch
Dgd.—Damaged	I.—Immature	V.st.—Very starchy
D.k.—Dark kernels	Sl.I.—Slightly immature	Th.—Thin
D.c.—Discolored	M.—Mildewed	L.w.—Light weight
E.—Ergoty	Pl.—Peeled	W.—Weathered
Sl.e.—Slightly ergoty	Sh.—Shrunken	Sl.w.—Slightly weathered
F.—Frosted	Spl.—Split	B.w.—Badly weathered
	Sp.—Sprouted	

GROWING CONDITIONS DURING 1944

April.—Over most of Saskatchewan moisture conditions were critical during the month of April. The amount of sub-soil moisture varied in different parts of the Province, ranging from practically nothing in some areas to such quantities in other regions that dry weather was needed, so that spring operations could be brought to the desired momentum. In the dry territories seeding was delayed awaiting precipitation.

May.—There was precipitation during the first week, giving most of the dry areas, except the west and south-west, germinating moisture. Low temperatures and frosts at nights slowed up germination and growth. By the end of the second week temperatures rose and showers were reported at many points. The earlier sown wheat was showing green and weeds were thick in practically all areas. Higher temperatures prevailed during part of the third week, yet crop germination was too slow to gain over the rapid weed growth and some fields were ploughed down. In general, precipitation over the Province, was uneven, consisting of light to heavy showers. In a part of the area in the west and south-west where no rain had fallen, soil drifting occurred, with wireworm adding to the serious situation. During the final week heavy rains fell over a large part of the grain growing area of the Province and as a result crops looked promising. In a few regions, especially in the south-east, some of the low-lying seeded fields were drowned out. Low temperatures accompanied the rainfall and warmer weather was still needed to stimulate development.

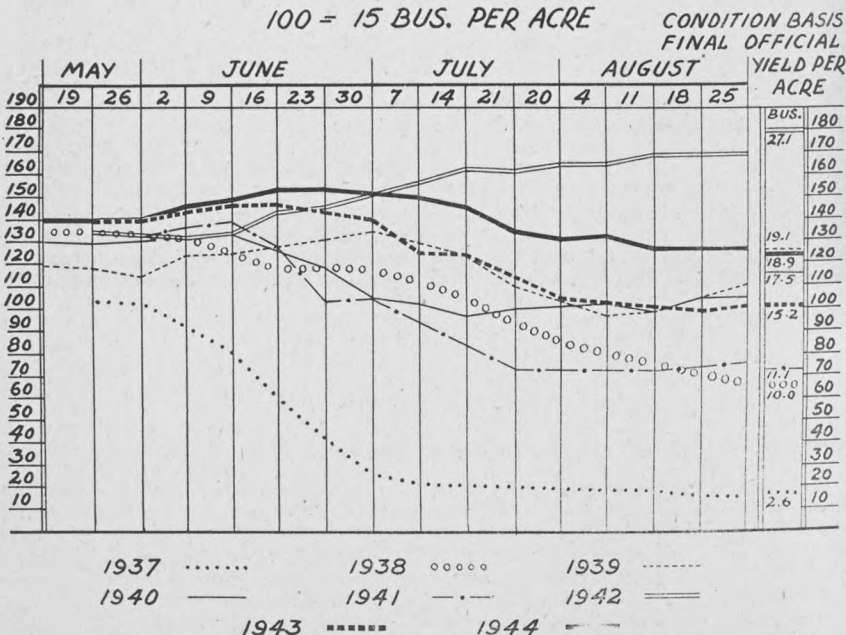
June.—During the first week of June the most favorable growing conditions prevailed which had occurred up to that date. Light to heavy rains fell in many areas and higher temperatures were recorded. Good rains fell in nearly all areas during the second week, but temperatures fell, with a few scattered points across the north reporting frost. Grasshoppers began to hatch out in the south-west where drought conditions still existed. Rain varying from light showers to heavy downpours continued

to fall over most regions. The third week brought no more uniform precipitation than the previous week, but nevertheless the crop situation over the Province was quite good. During the final week, rains still fell unevenly over the Province, and were lighter than those reported for the previous week.

July.—The grain crop now entered the most critical month of the growing period. During the first week light to heavy showers fell and moderate temperatures prevailed. The south-west, west-centre, east-centre, and north-east parts were in need of more rain, while in some parts lodging of the heavier growth occurred, especially in the south-east. Comparatively cool temperatures prevailed during the second week with rainfall varying, in the more favored areas, from light to heavy showers. The drought-stricken area in the south-west and west began to widen with the higher temperatures of the third week. Hail damage was reported at many points. Towards the end of the month temperatures varied widely. Light to heavy rains fell, especially in the north-east and north-centre, where downpours were reported. In the northern part dry weather was needed in order to escape damage from frost. In the west and south-west harvesting had begun.

August.—During the first week temperatures were moderate with light to heavy showers being reported over a large part of the Province. At the same time advances and declines in the crop at the different points were recorded. Wind and hail damage was reported at some points. The wind caused lodging of the heavy crops and in the light crop areas of the south and west-centre it helped complete the damage started by sawfly larvae, which had weakened the wheat stem. By the third week of August harvesting was becoming more general. In the sawfly infested areas farmers were swathing in order to reduce the loss from the pest. Temperatures lowered and frost was reported at a number of points. During the final week varying amounts of rain fell over all areas in the Province, some points recording as much as five inches. Hail, and wind storms were reported as causing the usual damage and lodging.

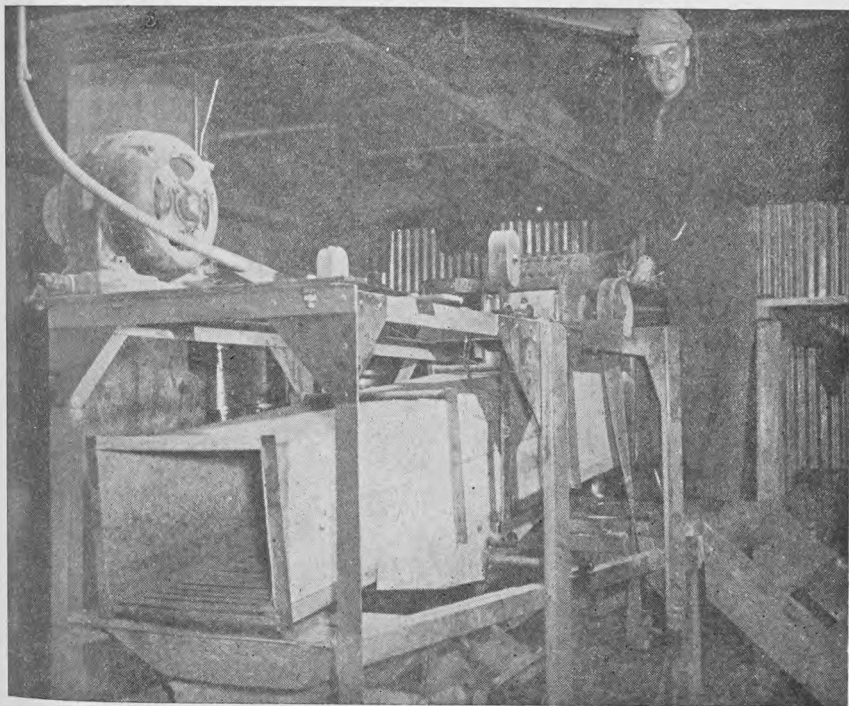
GRAPH SHOWING WEEKLY TREND OF SASKATCHEWAN WHEAT CROP 1937-1944



This graph shows the conditions of the Saskatchewan wheat crop as it appeared each week during the growing season 1917-1944. The final official yield per acre is shown in last Column.

Summary.—The 1944 crop, on the whole, started with a definite lack of reserve moisture and was dependent upon the precipitation of the growing season. As a result the root system was shallow and the absence of much hot weather allowed the crop, which finally proved a good one, to be carried along in a week to week fashion. The south-west and west-centre, in addition to drought, suffered the ravages of grasshopper and sawfly. The sawfly area stretched beyond the drought area. Wind, hail, and frost did considerable damage in many territories. The amount of rainfall varied throughout the growing season from light showers to extremely heavy downpours. Harvest and threshing of the 1944 crop was delayed considerably, on account of bad weather, especially in the North where operations were brought to a standstill for several weeks. They were finally completed however, under more favorable weather conditions than was experienced earlier in the season.

THE THRESHER USED TO THRESH SHEAVES FROM TESTS



The machine is powered with a 3 H.P. electric motor and is hand fed. It was designed especially for experimental work.

BARLEY TESTS

VARIETIES USED IN TESTS, THEIR ORIGINS and DISEASE REACTONS

Rex.—Is a two-rowed smooth-awned, nodding barley with pale brown kernels, originated at the University of Saskatchewan from a cross between Hannchen and Velvet, a hybrid sister of Regal. It is susceptible to leaf and stem rust and moderately susceptible to loose and covered smut. It has high bushel weight, neck strength and strong straw, and retains its seed for some time after it is ripe.

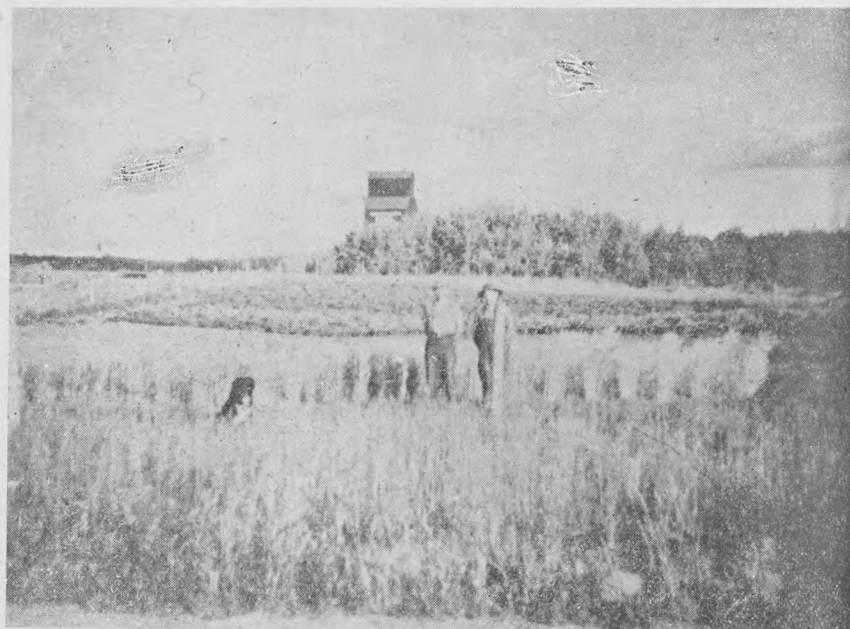
Prospect.—Is a nodding, six-rowed smooth-awned barley with white kernels. It was selected at the Swift Current Experimental Station from a natural cross of Black Barbless. It is susceptible to rusts and smuts.

Titan.—Is a six-rowed smooth-awned feed barley with strong straw and upright habit of growth. It was originated at the University of Alberta from a cross made between Trebi and Glabron, a sister hybrid of Regal. It has a high degree of resistance to loose smut, but is susceptible to rusts and covered smuts.

Plush.—Is a six-rowed smooth-awned barley originated at the Brandon Experimental Station from a cross made between Lion and Bearer. It is susceptible to rusts and smuts.

Newal.—Is a six-rowed smooth-awned nodding barley with bright straw colored kernels. It originated from a cross made at the University of Alberta between O.A.C. 21 and a hybrid which was developed from a cross between Manchuria and Lion. It is susceptible to rusts and smuts.

Compana.—Is a two-rowed, semi-smooth-awned, white seeded variety of hybrid barley developed through the combined efforts of the Montana Agricultural Experiment Station and the United States Department of Agriculture. Compana was one of many selections made at Aberdeen, Idaho from a tenth-generation composite of 32 different crosses. It has good bushel weight, is resistant to loose smut, and moderately resistant to covered smut, but susceptible to rusts. Its performance under Montana conditions has given it prominence in that State.



Barley test of Emil and Leo Larson, twin boys of Robinhood.

RAINFALL

TABLE No. 1.—Shows the average total precipitation for the growing season by months in the areas stated. This information was supplied by the Provincial Department of Agriculture, Regina.

Cereal Variety Zones	No. of stations reporting	May	June	July	August
1A	10	2.60	2.89	1.94	2.27
1B, 2D, 2F	10	2.05	2.36	2.57	2.42
2A, 2E	6	3.31	4.99	1.04	3.30
2B	11	3.38	2.51	2.19	1.21
3A	2	1.76	7.34	2.18	3.54
3B	3	1.32	3.14	2.15	3.78
3C	8	2.48	3.53	1.82	2.90
3D, 3F, 4A, 4B	6	2.88	2.63	3.80	2.63
3E	6	3.41	3.15	5.11	4.39

The above table is limited to the amount of precipitation during the growing season. The moisture received over these months has far more influence accordingly on the crop than the annual precipitation.

GRAIN YIELD

TABLE No. 2.—AVERAGE YIELDS IN BUSHELS PER ACRE, NUMBER OF SATISFACTORY TESTS AND THE NECESSARY DIFFERENCES FOR THE ZONES AND GROUPED ZONES

Cereal Variety Zone	No. of satisfactory tests	Rex	Prospect	Titan	Plush	Newal	Compana	Necessary Difference in bushels
1A	18	32.8	29.8	38.5	39.6	35.9	34.1	3.55
1B, 2D, 2F	8	27.4	19.7	25.4	37.2	29.4	27.7	3.80
2A, 2E	7	46.3	39.3	53.2	58.3	54.7	40.6	5.80
2B	8	37.5	30.9	43.2	49.2	45.6	38.7	4.80
2C	No results available.							
3A	8	32.2	28.9	39.1	44.0	42.2	31.3	4.82
3B	10	49.2	46.8	54.3	63.6	64.8	45.9	6.68
3C	8	37.0	31.0	36.1	43.0	41.8	33.9	*
3D, 3F, 4A, 4B	8	46.8	40.9	54.5	65.0	52.7	45.3	6.36
3E	10	39.7	37.5	45.5	51.6	52.4	40.9	5.05
3H	No tests available							

* No significant difference.



Robert Charteris, Dodsland, shown in his barley test.

Table No. 2.—In seven out of the nine zones and areas of grouped zones, Plush yielded the largest number of bushels per acre. However, in only two of these seven areas did Plush significantly yield better than all other varieties. In the area comprising Zones 1B, 2D and 2F, Plush yielded 37.2 bus. per acre, which was 7.8 bus. per acre higher than its nearest rival, Newal. The necessary difference was 3.8 bus., which means Plush significantly excelled the other varieties. In the area including Zone 3D, 3F, 4A and 4B, Plush averaged 65 bus. per acre significantly exceeding Titan, which came second highest, by 10.5 bus. per acre. The necessary difference in this case was 6.36 bus.

Newal outyielded Plush in the two remaining zones but in neither instance was the difference significant. The two differences were 1.2 bus. and 0.8 bus. and the corresponding necessary differences were 6.68 and 5.05 bus. respectively. In five out of the seven areas in which Plush led, Newal was the second highest yielder. In only one of these five areas was the difference between Plush and Newal significant.

Titan was second in bushels per acre yield in two zones, but in only one of these was it significantly outyielded. In the other zone the difference was 1.1 bus. whereas the necessary difference was 3.55 bus. Titan appeared to rank third on the whole. In six of the eight areas it was significantly outyielded.

In six areas Rex outyielded Compana but not once was the difference large enough to equal the necessary difference. Rex was higher in yield of grain than Prospect in the nine areas, but in only three of them were the differences significant. This occurred in the areas comprising Zones 1B, 2D and 2F, and Zones 2A and 2E also in 2B and 3C. Compana's record showed higher grain yield than that of Prospect in eight out of nine areas, but in only 2B and the area including Zones 1B, 2D and 2F were the differences great enough to declare Compana a significantly higher yielder than Prospect.

The general average of the Province shows the same comparative yield standing of the varieties shown by the summarization in cereal zones.

DAYS FROM SOWING TO RIPENING

TABLE No. 3.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING

Cereal Variety Zone	Rex	Prospect	Titan	Plush	Newal	Compana
1A	90.0	89.0	88.2	92.1	91.5	87.9
1B, 2D, 2F	89.7	87.8	87.8	90.1	89.8	88.4
2A, 2E	87.0	87.5	85.2	88.2	87.3	85.3
2B	89.5	87.9	88.5	88.6	89.3	88.0
3A	86.4	86.5	85.1	87.8	88.0	84.4
3B	86.8	87.1	86.5	88.1	87.8	86.7
3C	87.0	82.3	82.3	85.0	85.0	83.0
3D, 3F, 4A, 4B	100.2	98.8	97.6	100.4	99.8	99.8
3E	97.4	95.0	95.4	98.4	96.1	96.3



Arlene Catton of Hanley beginning to harvest her barley test.

Table No. 3 shows the average number of days from sowing to ripening required by each of the six varieties. In five out of the 9 zones or grouping of zones, Titan was earliest to mature. In only one zone, 2B, was Titan third and in the remaining three areas was second. Prospect was the first to ripen in four areas, twice tying with Titan. In the other five zones its comparative position varied. Compana's placing was not as variable as was that of Prospect. In two zones, it matured first, in three it was second in maturing, in three, third, and once it was fourth. Rex, while not gaining higher than third place was only last in one of the zone averages.

Newal ranked lower than Rex in the majority of averages, yet came higher than Plush. Plush was last to reach maturity, in six out of the nine averages. The variety demanding the longest average time, (100.4 days) to mature was Plush in the Zone grouping 3D, 3F, 4A and 4B. The shortest period from seeding to maturity was in Zone 3C, where Prospect and Titan averaged 82.3 days.

HEIGHT OF PLANTS

TABLE No. 4.—AVERAGE PLANT HEIGHT IN INCHES

Cereal Variety Zone	Rex	Prospect	Titan	Plush	Newal	Compans
1A	26.0	29.2	25.2	28.3	28.2	23.8
1B, 2D, 2F	26.9	26.5	24.2	28.5	27.6	21.6
2A, 2E	37.1	32.6	36.1	37.6	36.8	29.8
2B	28.4	30.0	28.8	29.7	27.6	23.2
3A	36.0	34.7	31.8	35.0	35.1	30.3
3B	30.8	31.4	29.8	31.0	30.6	23.3
3C	28.5	28.8	26.5	29.2	28.5	21.8
3D, 3F, 4A, 4B	37.8	35.1	31.9	36.1	35.2	28.9
3E	34.0	32.6	30.4	33.8	32.7	27.7



Mavis and Lionel Herbert, Mortlach, beside sheaves from Mavis' barley test.
Lionel had a wheat test.

Table No. 4 gives the comparative average heights in inches of the six varieties in the nine cereal zones and grouping of zones. In each of these areas Compana was the shortest strawed variety. The differences, over the nine areas, between Compana's height and that of the next tallest variety varied from 1.4 to 6.5 inches. Titan, in seven out of the nine, averaged shorter than the remaining four varieties in the test. Rex, Prospect and Newal appeared to vary in their positions of comparative average heights in the different areas. Plush averaged slightly taller than Prospect, Rex and Newal and distinctly taller than Compana and Titan. The greatest average plant height was 37.8 inches and was obtained by Rex in the Northern area, while the least average height was 21.6 inches and was reached by Compana in the Zone grouping 1B, 2D and 2F.

STRAW STRENGTH

TABLE No. 5.—COMPARISON OF STRAW STRENGTH

Cereal Variety Zone	Rex	Prospect	Titan	Plush	Newal	Compans
1A	8.6	8.5	8.4	8.9	8.4	8.2
1B, 2D, 2F	9.1	9.1	8.8	9.2	9.1	8.3
2A, 2E	8.4	8.1	8.1	7.4	7.1	5.6
2B	9.1	9.1	9.3	9.3	8.4	7.4
3A	8.9	8.7	9.0	8.8	8.3	8.3
3B	9.3	8.2	8.6	8.2	7.1	7.6
3C	9.1	9.0	9.0	9.3	8.2	9.0
3D, 3F, 4A, 4B	9.3	8.3	8.6	8.1	8.1	8.7
3E	9.3	9.1	9.1	9.0	8.5	8.5

Table No. 5 indicates the straw strength of the varieties in the different areas. Rex showed the greatest strength of straw on the whole. In four out of the 9 zones, or zone groupings, Rex averaged higher than the other varieties. On only one occasion did it rank as low as third. While Titan and Plush in two and four areas respectively showed greater average straw strength than the other varieties. Their comparative positions varied in the remaining areas. For example, in Zone 3A, Titan excelled the other varieties in strength of straw, yet in the Zone grouping of 1B, 2D and 2F it was fifth. Similarly, with Plush, in Zone 1A it ranked highest in straw strength and in the Northern area it showed the weakest straw. Prospect did not vary in its placing as much as either Titan or Plush. In none of the nine areas did it show greater straw strength than the other five varieties, nor did its average indicate the weakest straw. Compans had the least strength of straw in six of the nine areas, Newal equalling it in two of these areas. In the remaining three areas Newal was the weakest. Newal and Compans showed the least strength of straw of the six varieties under test.

NECK STRENGTH

TABLE No. 6.—COMPARISON OF NECK STRENGTH

Cereal Variety Zone	Rex	Prospect	Titan	Plush	Newal	Compans
1A	1.6	1.8	1.8	1.7	1.8	1.8
1B, 2D, 2F	1.4	1.8	1.7	1.6	2.5	1.7
2A, 2E	1.3	1.3	1.2	1.6	2.3	1.7
2B	1.6	1.8	1.3	1.7	2.5	1.6
3A	1.3	1.7	1.8	1.4	2.3	1.7
3B	1.3	1.4	1.0	1.6	2.4	1.4
3C	1.2	1.7	1.6	1.2	2.2	1.8
3D, 3F, 4A, 4B	1.7	1.7	1.6	1.7	2.4	2.3
3E	1.6	1.5	1.8	1.7	2.8	1.5

Table No. 6 gives an indication of the neck strength of the six varieties in the different cereal zones and zone groupings. Rex and Titan were the two varieties exhibiting the greater neck strength. Rex showed slightly greater strength than Titan over the nine areas, Titan displaying some variation. The average neck strength of Prospect and Compans varied from zone to zone, both showing approximately the same strength. Plush showed some variation, but was better in this respect than Prospect and Titan. Newal had, without any doubt, the least neck strength of the six varieties under test.

WEIGHT PER MEASURED BUSHEL

TABLE No. 7.—AVERAGE WEIGHT PER MEASURED BUSHEL OF CLEAN GRAIN

Cereal Variety Zone	Rex	Prospect	Titan	Plush	Newal	Compans
1A	52.2	48.5	50.1	48.8	48.6	50.8
1B, 2D, 2F	51.5	48.2	49.3	48.1	48.7	51.8
2A, 2E	51.3	48.6	49.7	48.8	49.0	48.1
2B	53.0	49.3	49.8	50.0	49.8	51.7
3A	50.2	47.3	47.0	47.7	48.0	47.6
3B	52.2	47.9	49.3	49.1	49.5	50.2
3C	51.4	47.9	48.6	47.7	48.9	51.3
3D, 3F, 4A, 4B	51.6	48.0	48.3	48.5	49.1	50.2
3E	52.0	48.2	48.8	48.7	49.3	51.1

Table No. 7 gives average bushel weights of the varieties in the nine areas. In eight out of the nine areas, Rex outweighed the others. In the remaining area it was exceeded by Compans, which outweighed it by less than one half a pound. In six out of the nine areas, Compans had the second greatest bushel weight. The variety having the third greatest bushel weight over the nine areas was Titan. Then came Newal which was followed by Plush. Prospect had the lowest bushel weight in five out of the nine areas and second lowest in the other four areas.

COMMERCIAL GRADES

TABLE No. 8.—COMMERCIAL GRADES IN PERCENTAGE

	1 C.W. 6-Row	2 C.W. 6-Row	3 C.W. 6-Row	1 C.W. 2-Row	2 C.W. 2-Row	3 C.W. 2-Row	1 Feed	2 Feed	3 Feed
Rex	5.7	56.8	....	32.9	2.3	2.3
Prospect	9.1	57.9	....	....	....	26.1	4.6	2.3
*Titan	70.4	....	....	....	23.0	3.4	1.2
Plush	7.9	64.8	....	....	....	21.6	3.4	2.3
Newal	1.2	10.2	69.3	....	....	....	10.2	6.8	2.3
*Compana	7.9	60.2	....	27.3	2.3	2.3

* Titan and Compana at time of grading had not been approved but were treated as if they had been for the purpose of comparison.

Table No. 8 gives the commercial grades in percentage of each variety in the test. The two-rowed varieties, Rex and Compana, graded better than the six-rowed varieties. Compana did slightly better than Rex since it had a higher percentage in both 1 C.W. and 2 C.W. grades. In the six-rowed barleys Prospect, Titan, Newal and Plush, Newal graded slightly higher than the other three. Titan graded the lowest, in no case reaching 1 C.W. or 2 C.W. While Prospect had a higher percentage in the 2 C.W. than Plush, the reverse was the case in the 3 C.W. 6-row grade.

SUMMARIZATION ACCORDING TO CEREAL VARIETY ZONES

For the individual who is interested in a definite locality within the Province this part of the report will be most useful and instructive in giving him some information about the different varietal characteristics. In order to conserve paper and avoid too much repetition we refer the reader to page 8. By reading the paragraphs on "Facts to Remember when Reading and Studying Analysis and Results", the reader will be better able to understand certain terms used.

CEREAL VARIETY ZONE 1A

TABLE No. 9.—SUMMARIZATION OF RESULTS OF ZONE 1A

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	32.8	29.8	38.5	39.6	35.9	34.1
Days from sowing to ripening	90.0	89.0	88.2	92.1	91.5	87.9
Height of plants in inches	26.0	29.2	25.2	28.3	28.2	23.8
Straw strength	8.6	8.5	8.4	8.9	8.4	8.2
Neck strength	1.6	1.8	1.8	1.7	1.8	1.8
Bus. weight in lbs.	52.2	48.5	50.1	48.8	48.6	50.8
Commercial grades in percentage						
1 C.W. 2-Row .....	....	....	....	....	....	17
2 C.W. 2-Row	67	6	....	....	....	50
2 C.W. 6-Row .....	....	6	....	6	11	....
3 C.W. 6-Row .....	....	83	89	72	79	....
1 Feed	33	11	11	22	5	33
2 Feed .....	....	....	....	....	5	....

Necessary difference—3.55 bus.

Table No. 9.—**Grain Yield.** Plush outyielded Titan by 1.1 bus. per acre and Newal by 3.7 bus. per acre. In only the case of Titan was the difference significant. In comparing the yields of Plush with the yields of Compana, Rex and Prospect, the differences are 5.5 bus., 6.8 bus. and 9.8 bus., respectively. In these three cases Plush significantly outyielded the three varieties. Titan also significantly outyielded these three varieties. **Earliness.**—Compana reached maturity in the least number of days, being earlier than Titan, the second earliest variety, by 0.3 days. It was earlier than Prospect by 1.1 days, earlier than Rex by 2.1 days, earlier than Newal by 3.6 days, and earlier than Plush by 4.2 days. **Height.**—Prospect reached the greatest height of the six varieties, exceeding the next highest variety, Plush by almost one inch. Newal was slightly less in average height than Plush. The varieties Rex, Titan and Compana were shorter than Prospect by approximately 3 inches, 4 inches and 5½ inches, respectively. **Straw Strength.**—Not one of the varieties exhibited any marked strength of straw over another in this zone. Plush had the highest average and the others were in the following order: Rex, Prospect, Titan and Newal tied, and Compana.

Neck Strength.—Rex was slightly better in neck strength than Plush which was second. The other four varieties were equal in this characteristic.

Bushel Weight.—Rex outweighed the next highest variety Compana by 1.4 lbs. Titan weighed 0.7 lbs. less than Compana and slightly more than Plush. Newal and Prospect followed close to Plush and in the order named.

Grades.—Compana was the only variety having any of its samples reaching the top grade. Seventeen per cent. were in the top grade, fifty per cent. in the second grade and the remaining one third in No. 1 Feed. Sixty-seven per cent. of the samples of Rex graded 2 C.W. and the remainder was No. 1 Feed. Compana and Rex had a greater percentage in the Feed grades than the six-row varieties. Newal graded slightly better than the other three six-row varieties.

Smut.—Rex showed the most susceptibility to loose smut. Newal was second in this respect and then Prospect, with Plush showing a trace. Titan and Compana appeared resistant in this zone. Rex also showed more susceptibility to covered smut. Newal, Compana and Titan exhibited susceptibility in decreasing amount in the order named.

Rust.—Titan showed slightly more signs of stem rust infection than the other varieties. In general, there was more leaf rust infection than there was stem rust. Plush appeared the most susceptible to leaf rust and Compana the least susceptible. The differences between the highest and lowest percentages was two per cent.

Shattering.—Prospect shattered worse than the other varieties and Compana the least. The remaining varieties ranged closely together and between the two varieties mentioned.

Summary of the Outstanding Characteristics.—With the exception of Titan, Plush outyielded all varieties significantly. Plush had medium bushel weight and its samples did not grade high. It took the longest time to mature, reached the second greatest height, had good straw and neck strength and suffered the most from leaf rust. Titan yielded significantly higher than the remaining varieties, Compana, Rex and Prospect, was second shortest, second earliest to mature, and had good straw and neck strength. Newal was third in grain yield, but outyielded only Prospect significantly. It was low in grade, weak in neck strength and quite susceptible to both smuts. The yields and bushel weights of Rex and Compana were comparatively close, with Compana yielding and grading better than Rex. Compana was the shortest and had the weakest straw. It showed resistance to loose smut, but was susceptible to covered smut. Rex had above average straw and neck strength, but showed loss from both smuts. Prospect was the lowest in grain yield, was the tallest and suffered losses from loose smut and shattering.

CEREAL VARIETY ZONES (GROUPED) 1B, 2D AND 2F

TABLE No. 10.—SUMMARIZATION OF RESULTS FOR GROUPING OF ZONES 1B, 2D & 2F

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	27.4	19.7	25.4	37.2	29.4	27.7
Days from sowing to ripening	89.7	87.8	87.8	90.1	89.8	88.4
Height of plants in inches	26.9	26.5	24.2	28.5	27.6	21.6
Straw strength	9.1	9.1	8.8	9.2	9.1	8.3
Neck strength	1.4	1.8	1.7	1.6	2.5	1.7
Bus. weight in lbs.	51.5	48.2	49.3	48.1	48.7	51.8
Commercial grades in percentage						
1 C.W. 2-Row	10	....	....	....	....	20
2 C.W. 2-Row	60	....	....	....	....	80
2 C.W. 6-Row .....	....	10	....	....	....	....
3 C.W. 6-Row .....	....	50	90	90	80	....
1 Feed	30	40	10	....	10	....
2 Feed .....	....	....	....	10	10	....

Necessary differences—3.8 bus.

Table No. 10. Grain Yield.—Plush exceeded the other five varieties by the following corresponding bushels per acre, Newal 7.8, Compana 9.5, Rex 9.8, Titan 11.8 and Prospect 17.5. Since the necessary difference for this area was 3.8 bus., Plush significantly outyielded the others. Similarly all varieties were significantly higher yielders than Prospect.

Earliness.—Titan and Prospect reached maturity in the same average number of days. The average number of days required by Compana was 0.6 day longer. Rex's average coming next was very slightly less than Newal, while Plush took slightly longer than Newal.

Height.—Plush grew to the greatest height. Newal, Rex and Prospect grew within a two inch range less than Plush and are named in order of decreasing height. Titan's and Compana's average heights were less than that of Plush by 4.3 and 6.9 inches, respectively.

Straw Strength.—Plush, Newal, Prospect and Rex had practically the same straw strength average. If any, Plush was very slightly the best in this respect. Titan was next in order and Compana showed the least straw strength of the six varieties. **Neck Strength.**—Rex excelled in this characteristic, with four of the other five varieties showing very little less inferiority. In order of merit they are: Plush, Titan and Compana tied, and Prospect. Newal was definitely poorer in this respect than the other varieties. **Bushel Weight.**—Compana exceeded Rex, which was second in weight, by 0.3 lb. Titan weighed 2.5 lbs. less than Compana. Newal 3.1 lbs. less, Prospect 3.6 lbs. less and Plush 3.7 lbs. less. **Grades.**—Compana graded better than the other varieties, having all its samples in the first two grades. Rex was second with 70 per cent. in the two top grades and the remaining samples going as No. 1 Feed. The four six-rowed varieties graded lower than the two-rowed, Prospect being the only one to have any of its samples in 2 C.W. grade. **Smut.**—Rex was the most susceptible to loose smut. Newal was second in lack of resistance and Prospect was next. Plush showed little susceptibility with Titan exhibiting only a trace. Compana was free of any loss from this disease. In order of decreasing susceptibility to covered smut, the varieties are Titan, Compana, Rex and Plush tied, and Newal and Prospect tied. **Rust.**—Very little evidence of rust infestation was reported. If any, and then only very slightly, Compana and Titan were attacked the worst. **Shattering.**—The greatest loss from this cause was experienced by Rex. Newal was second with Prospect and Plush in the order named. Compana and Titan also suffered small losses. **Summary of Outstanding Characteristics.**—Plush was a significant yielder, but did not grade as well as the two-row varieties. It exceeded the other varieties in strength and height, but was last to mature. It was moderately susceptible to rust and smut and suffered slightly from shattering. Newal was next in yield, but was considerably lower than Plush. It graded similar to Plush, had good height and strong straw, but showed considerable lack in neck strength. Rex and Compana were comparable in yield and bushel weight, but varied in other respects. Compana had shorter and weaker straw, was more resistant to loose smut and graded higher. Titan was low in yield compared to Plush. It was quite resistant to loose smut, matured early and had reasonable bushel weight. Prospect was the poorest yielder. It matured in the same length of time as Titan, had average length and good strength of straw, was somewhat susceptible to loose smut and suffered from shattering.

CEREAL VARIETY ZONES (GROUPED) 2A AND 2E

TABLE No. 11.—SUMMARIZATION OF RESULTS FOR GROUPING OF ZONES 2A & 2E

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	46.3	39.3	53.2	58.3	54.7	40.6
Days from sowing to ripening	87.0	87.5	85.2	88.2	87.3	85.3
Height of plants in inches	37.1	32.6	36.1	37.6	36.8	29.8
Straw strength	8.4	8.1	8.1	7.4	7.1	5.6
Neck strength	1.3	1.3	1.2	1.6	2.3	1.7
Bus. weight in lbs.	51.3	48.6	49.7	48.8	49.0	48.1
Commercial grades in percentage						
2 C.W. 2-Row	100.0	....	....	....	....	72
1 C.W. 6-Row .....	....	....	....	....	14	....
2 C.W. 6-Row .....	....	43	....	29	43	....
3 C.W. 6-Row .....	....	57	86	71	43	....
1 Feed .....	....	....	14	....	....	14
2 Feed .....	....	....	....	....	....	14

Necessary difference—5.8 bus.

Table No. 11. Grain Yield.—Plush outyielded the other varieties by the following differences: Newal 3.6, Titan 5.1, Rex 12.0, Compana 17.7, and Prospect 19.0. Although Plush yielded the greatest number of bushels per acre, it was not significantly higher than either Newal or Titan, nor was Newal significantly higher than Titan. However, the three varieties mentioned yielded significantly higher than Rex, Compana and Prospect. **Earliness.**—Titan was the first to mature, exceeding the next earliest variety, Compana, by 0.1 day and the latest variety, Plush, by 3 days. Rex was third to mature, Newal fourth and Prospect fifth. **Height.**—Plush attained the greatest height while Compana was shortest. The other four varieties came within the 7.8 inches difference. In order of increasing height

they were Prospect, Titan, Newal and Rex. **Straw Strength.**—Rex showed the greatest strength of straw and Compana the least. Prospect and Titan displayed more strength of straw than did Plush and Newal. **Neck Strength.**—Newal was definitely inferior in this characteristic. Titan, Prospect and Rex had greater neck strength than Plush and Compana. **Bushel Weight.**—Rex had the greatest bushel weight, exceeding Titan the second heaviest variety by 1.6 lbs. Newal ranked third, Plush fourth, Prospect fifth and Compana last. Compana was 3.2 lbs. lighter than Rex. This was due to frost and immaturity. **Grades.**—Rex graded higher than the other varieties, all of its samples grading 2 C.W. Newal excelled in the six-row varieties, while Titan was the lowest. **Smut.**—Rex experienced the greatest losses from both loose and covered smuts. Titan and Compana were resistant to covered smut, with Titan showing a trace of loose smut. Newal and Prospect were definitely susceptible to loose smut, the former being the less resistant. Newal was not as heavy a loser from covered smut as was Prospect. Plush suffered from covered smut and exhibited a trace of loose smut. **Rust.**—The stem rust recorded was greater in percentage than the leaf rust. Plush was attacked the worst in the case of stem rust. **Shattering.**—The heaviest average loss was 2.2 per cent. and was recorded against Compana. The other varieties lost between one and two per cent. **Summary of Outstanding Characteristics.**—In this zone grouping no one variety significantly outyielded the other five varieties. Plush, Newal and Titan yielded significantly higher than the remaining three. Plush grew to the greatest height and took the longest time to mature. It had only medium straw and neck strength and did not show complete resistance to either rust or smut. Newal was a good yielder with samples grading reasonably high, matured in average length of time and grew to average height, but exhibited some weakness of straw and a definite lack of neck strength. It was susceptible to rust and both forms of smut. Titan yielded well, but graded poorer than the other six-row varieties. It was first to mature, had good straw and neck strength and showed only a trace of loose smut. Rex was a medium yielder with all of its samples grading 2 C.W. Its neck strength and straw strength were very good, but it suffered heavier than any other variety from both smuts. Compana's yield was lower than the yield of Rex and its samples also graded less. It was second earliest in maturing, was the shortest growing barley, was resistant to both smuts, had average neck strength, but was lacking in straw strength. Prospect was a significant lower yielder than all varieties, except Compana. It was susceptible to smut and rust, was second lowest in length of straw, and was about average in straw strength and neck strength.

CEREAL VARIETY ZONE 2B

TABLE No. 12.—SUMMARIZATION OF RESULTS FOR ZONE 2B

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	37.5	30.9	43.2	49.2	45.6	38.7
Days from sowing to ripening	89.5	87.9	88.5	88.6	89.3	88.0
Height of plants in inches	28.4	30.0	28.8	29.7	27.6	23.2
Straw strength	9.1	9.1	9.3	9.3	8.4	7.4
Neck strength	1.6	1.8	1.3	1.7	2.5	1.6
Bus. weight in lbs.	55.0	49.3	49.8	50.0	49.8	51.7
Commercial grades in percentage						
2 C.W. 2-Row	76	....	....	....	....	88
2 C.W. 6-Row .....	....	....	....	12	12	....
3 C.W. 6-Row .....	....	50	75	63	76	....
1 Feed	12	50	25	25	12	12
2 Feed	12	....	....	....	....	....

Necessary difference—4.8 bus.

Table No. 12. Grain Yield.—Plush exceeded the other five varieties in bushels per acre and was significant in yield, except in the case of Newal. The difference here was 3.6 bus. per acre, which was below the necessary difference of 4.8 bus. Plush outyielded Titan by 6 bus. per acre, Compana by 10.5 bus., Rex by 11.7 bus. and Prospect by 18.3 bus. Prospect was significantly lower than all other varieties. **Earliness.**—Prospect matured first and Rex last. The difference between the two was 1.6 days during which time the other four varieties reached maturity. They matured in the following order: Compana, Titan, Plush and Newal. **Height.**—Prospect grew to the greatest height which was 30 inches. Plush was 0.3 inch shorter,

Titan 1.2 inches, Rex 1.6 inches, Newal 2.4 inches and Compana, the shortest variety, was 6.8 inches shorter than Prospect. **Straw Strength.**—Titan and Plush were equal and highest in straw strength. Prospect and Rex were equal and reported as being a little weaker than the first two varieties mentioned. Newal showed less strength and Compana was decidedly the weakest strawed. **Neck Strength.**—Titan excelled in neck strength and Newal was definitely inferior. The other four varieties came between the two mentioned and fell in the following order, Rex and Compana tied; Plush was a little weaker and then Prospect. **Bushel Weight.**—Rex outweighed Compana, which was second heaviest, by 1.3 lbs. The six-row barleys were lighter, yet all were over the standard bushel weight. Of these four varieties, Plush was the heaviest, Newal and Titan tied and Prospect was the lightest. **Grades.**—Compana had 88 per cent. and Rex 76 per cent. of their samples in grade 2 C.W. Of the remaining four varieties Newal graded slightly better than Plush and Titan slightly better than Prospect. **Smut.**—All varieties were infected by loose smut from a trace on Compana to a fairly heavy infection on Rex. The only variety having even a trace of covered smut was Compana. **Rust.**—The six varieties showed both leaf and stem rust, but in no case was the amount over 7 per cent. **Shattering.**—The loss reported for Newal was 2.9 per cent., Compana 2.4 per cent., Prospect 1.8 per cent. and the remaining three were under 1 per cent. **Summary of Outstanding Characteristics.**—Plush yielded the largest number of bushels per acre and was significantly higher in yield than all varieties, except Newal. Its grade and weight averaged well. It matured in a reasonable length of time and had good straw strength and average neck strength. It appeared susceptible to a small degree to rust and loose smut. Newal yielded significantly better than Compana, Rex and Prospect. Its bushel weight and grades ranked well among those of the six-row varieties. It had fair straw strength, but was decidedly weak in strength of neck. Newal was attacked by rust and loose smut and suffered some from shattering. Titan was a significantly higher yielder than Rex and Prospect, but significantly lower than Plush. It grew to medium height in average length of time, had good straw and neck strength and was infected by loose smut and rust. Compana yielded significantly better than Prospect. It weighed and graded well. It matured second earliest, was the shortest growing variety and was weak strawed. In addition to rust it showed traces of both forms of smut. Rex was significantly higher in yield than Prospect, excelled in bushel weight, was last in maturing, and had average straw and neck strength. It suffered loss from loose smut, but escaped any loss from covered smut. Rust attacked it to some extent. Prospect was significantly lower in yield than the other varieties. It was lowest in grade and bushel weight, grew to the greatest height, reached maturity in the shortest time, had average neck and straw strength and was not completely resistant to loose smut and rust.

CEREAL VARIETY ZONE 3A

TABLE No. 13.—SUMMARIZATION OF RESULTS FOR ZONE 3A

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	32.2	28.9	39.1	44.0	42.2	31.3
Days from sowing to ripening	86.4	86.5	85.1	87.8	88.0	84.4
Height of plants in inches	36.0	34.7	31.8	35.0	35.1	30.3
Straw strength	8.9	8.7	9.0	8.8	8.3	8.3
Neck strength	1.3	1.7	1.8	1.4	2.3	1.7
Bus. weight in lbs.	50.2	47.3	47.0	47.7	48.0	47.6
Commercial grades in percentage						
1 C.W. 2-Row	63	....	....	....	....	....
2 C.W. 2-Row .....	....	....	....	....	....	50
3 C.W. 2-Row .....	....	....	....	....	....	....
1 C.W. 6-Row .....	....	....	....	....	....	....
2 C.W. 6-Row .....	....	12	....	....	....	....
3 C.W. 6-Row .....	....	12	....	12	12	....
1 Feed	25	25	38	51	64	....
2 Feed .....	....	25	38	25	12	25
3 Feed	12	12	12	....	....	....
.....	12	12	12	12	12	25

Necessary difference—4.82 bus.

Table No. 13. **Grain Yield.**—Although Plush yielded the most bushels per acre, its yield was only significant over those of Titan, Rex, Compana and Prospect. The difference of 1.8 bus. between Plush and Newal did not exceed or equal the necessary difference of 4.82 bus. Plush exceeded Titan,

Rex, Compana and Prospect by 4.9 bus., 11.8 bus., 12.7 bus. and 15.1 bus., respectively. Newal and Titan were significant over the last three varieties mentioned. **Earliness.**—A difference of 3.6 days from the time the earliest variety matured until the last matured was recorded. The varieties reached maturity in the following order: Compana was first, then Titan, Rex, Prospect, Plush and Newal. **Height.**—Rex grew to a height of 36 inches and Compana, the shortest variety, to a height of 30.3 inches. Plush and Newal were approximately one inch shorter than Rex, Prospect 1.3 inches and Titan 4.2 inches. **Straw Strength.**—No variety appeared inferior in this characteristic, as all averages were within a close range. In order of strength they were as follows: Titan, Rex, Plush, Prospect, and Newal and Compana tied. **Neck Strength.**—Rex ranked first in neck strength and Plush was a close second. Compana and Prospect averaged the same, with Titan showing slightly less strength. Newal was inferior to the other varieties in this quality. **Bushel Weight.**—Rex was superior to the other varieties. Newal was second and weighed 2.2 lbs. less per bushel. The remaining four varieties weighed between 47 lbs. and 48 lbs. per bushel. Plush was the heaviest in this group with the other three coming in the order named: Compana, Prospect and Titan. **Grades.**—Sixty-three per cent. of the samples of Rex graded 1 C.W. The next highest was Compana with 50 per cent. of samples in 2 C.W. Plush, Prospect and Newal each had 12 per cent. of their samples in 2 C.W. All other samples graded 3 C.W., 1, 2 or 3 Feed. **Smut.**—All varieties sustained loss from loose smut and each showed only a trace of covered smut. Rex experienced the greatest loss and Titan the least. **Rust.**—Leaf rust percentages ran higher than the stem rust percentages, but varied less. The range of variation was 2.8 per cent. Titan appeared to make the best host for the rust spore with Compana not far behind. **Shattering.**—Was evident in all cases. Reports gave Prospect the highest average loss and the remainder were in the following order: Newal, Plush, Rex, Titan and Compana. **Summary of Outstanding Characteristics.**—Plush averaged more bushels per acre than the other barleys and was significant in yield over all other varieties, except Newal. It was one of the last to mature, was third highest in straw length, third in straw strength and second in neck strength. It was not completely resistant to smut or rust. Newal was last to mature and it reached more than average height, but the straw was weaker than the other varieties, with the exception of Compana. The neck strength indicated inferiority. Loose smut took a toll while there was merely a trace of covered smut. Rust was also present. Titan yielded significantly higher than Rex, Compana or Prospect, but graded lowest of all the barleys. It was the least susceptible to loose smut and the most susceptible to stem rust. Rex outgraded and outweighed the others. It reached maturity in average time, was the tallest, had plenty of straw strength, and the greatest neck strength, but was the heaviest loser to loose smut. Compana was the shortest growing and quickest to mature. It had medium neck strength. Compana was susceptible to rust and smut. Prospect gave the least returns in bushels per acre but was not significantly outyielded by either Rex or Compana. It was not outstanding or inferior in the other characteristics.

CEREAL VARIETY ZONE 3B

TABLE No. 14.—SUMMARIZATION OF RESULTS FOR ZONE 3B

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	49.2	46.8	54.3	63.6	64.8	45.9
Days from sowing to ripening	86.8	87.1	86.5	88.1	87.8	86.7
Height of plants in inches	30.8	31.4	29.8	31.0	30.6	23.3
Straw strength	9.3	8.2	8.6	8.2	7.1	7.6
Neck strength	1.3	1.4	1.0	1.6	2.4	1.4
Bus. weight in lbs.	52.2	47.9	49.3	49.1	49.5	50.2
Commercial grades in percentage						
1 C.W. 2-Row	10	....	....	....	....	....
2 C.W. 2-Row	70	....	....	....	....	60
2 C.W. 6-Row .....	....	20	....	20	20	....
3 C.W. 6-Row .....	....	50	60	60	60	....
1 Feed	20	10	30	10	10	40
2 Feed .....	....	20	10	10	10	....

Necessary difference—6.68 bus.

Table No. 14—**Grain Yield.**—Newal exceeded Plush by 1.2 bus. which was considerably short of equalling the necessary difference of 6.68 bus. Consequently, Newal was not a significantly higher yielder than Plush. Both Newal and Plush significantly outyielded the other four varieties. The

yield of Newal exceeded Titan by 10.5 bus., Rex by 15.6 bus., Prospect by 18.0 bus. and Compana by 18.9 bus. **Earliness.**—Plush was the last to mature and took 1.6 days longer than Titan which was the first to reach maturity. Compana was second, Rex followed very closely, then Prospect, which preceded Newal. **Height.**—All varieties, with the exception of Compana, ranged from a height of 31.4 inches, which was high and was attained by Prospect down to 29.8 inches, the height of Titan. Newal was 0.8 inch taller than Titan, Rex was 0.2 inches taller than Newal and Plush was 0.2 inch taller than Rex. Compana was by far the shorter growing barley, being 8.1 inches shorter than Prospect. **Straw Strength.**—Rex was definitely superior. Titan excelled Prospect and Plush which were tied. Newal displayed inferiority with Compana slightly better. **Neck Strength.**—Titan gave every indication of superiority with the others following in the order named: Rex, Prospect and Compana tied, Plush and Newal, which was undoubtedly weak. **Bushel Weight.**—Rex was outstanding by exceeding Compana, the second heaviest, by 2 lbs. Newal, Titan and Plush were within a 0.4 lb. range of one another, coming next to Compana in the order named. Prospect was lowest and was slightly under the 48 lbs. standard weight. **Grades.**—Rex graded highest and Compana second. Eighty per cent. of the samples of Rex were in the top two grades. Compana had 60 per cent. in 2 C.W. The remainder of both varieties graded No. 1 Feed. Plush and Newal tied, Prospect came next and Titan was lowest. **Smut.**—Rex sustained the greatest loss from loose smut and was the only variety to show even a trace of covered smut. Titan and Plush were very slightly infected by loose smut. **Rust.**—Leaf and stem rust was reported on each variety, but to a very small degree in all cases. **Shattering.**—Prospect was highest with 1.6 per cent. All the others were reported less than Prospect within a 0.5 per cent. range. **Summary of Outstanding Characteristics.**—Newal yielded the most bushels per acre but it could not be said that it actually outyielded Plush, since the difference was not equal to or greater than the necessary difference. Newal and Plush graded equal. In comparison to the others, Newal was later than average in maturing. It reached a fair height but had both the weakest straw and neck strength. It was infected lightly by rust and suffered some loss from loose smut. Plush yielded significantly higher than Titan, Rex, Prospect and Compana, equalled Newal in grade, showed a trace of loose smut but no covered smut. It was the second tallest, latest in maturing, had medium straw and neck strength. Titan was significantly higher in yield than Prospect and Compana, but graded the poorest of all. It reached maturity in the shortest time and grew to a height approximately one inch less than Newal. Titan had the greatest neck strength and second highest straw strength, showed a trace of loose smut and a light rust infection. Rex outweighed and graded the other varieties and was the fourth heaviest yielder. It matured in average time, reached medium height, excelled in straw strength and was second in neck strength. This variety suffered the greatest loss from loose smut and was the only one to give an indication of covered smut in the zone. Prospect yielded slightly better than Compana, but the difference was not significant. It graded fairly low and had the lowest bushel weight. It grew to the greatest height, matured in average time, had medium straw and neck strength and was affected slightly by loose smut and rust. While Compana yielded the lowest number of bushels per acre, it was second highest in bushel weight and grade, second to reach maturity, second weakest in straw strength with medium neck strength and was considerably shorter. Its infection from loose smut and rust was light.

CEREAL VARIETY ZONE 3C

Table No. 15—**Grain Yield.**—There was no significant difference in this zone. However, Plush outyielded the other varieties by the following differences: Newal 1.2 bus., Rex 6.0 bus., Titan 6.9 bus., Compana 9.1 bus., and Prospect 12.0 bus. **Earliness.**—Prospect and Titan were first to mature and their averages were the same. Compana was 0.7 day later. Plush and Newal tied and were 2.7 days later than the earliest. Rex was last, taking 4.7 days longer to mature than Prospect and Titan. **Height.**—Plush grew to the greatest height and exceeded the height of Prospect by 0.4 inch, Rex and Newal, which were equal, by 0.7 inch, Titan by 2.7 inches and Compana by 7.4 inches. **Straw Strength.**—Plush excelled the others, Rex was second, Prospect, Titan and Compana tied for third and Newal was the weakest.

TABLE No. 15.—SUMMARIZATION OF RESULTS FOR ZONE 3C

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	37.0	31.0	36.1	43.0	41.8	33.9
Days from sowing to ripening	87.0	82.3	82.3	85.0	85.0	83.0
Height of plants in inches	28.5	28.8	26.5	29.2	28.5	21.8
Straw strength	9.1	9.0	9.0	9.3	8.2	9.0
Neck strength	1.2	1.7	1.6	1.2	2.2	1.8
Bus. weight in lbs.	51.4	47.9	48.6	47.7	48.9	51.3
Commercial grades in percentage						
1 C.W. 2-Row	12	....	....	....	....	12
2 C.W. 2-Row	25	....	....	....	....	76
3 C.W. 6-Row .....	....	88	88	75	88	....
1 Feed	51	12	12	25	12	12
3 Feed	12	....	....	....	....	....

No significant grain yield difference between varieties.

Neck Strength.—Rex and Plush were equal and stronger than the others. Titan, Prospect and Compana showed only a slight difference between one another and were in the order named. Newal was inferior to the other varieties. **Bushel Weight.**—Rex exceeded Compana by one-tenth of a pound. Newal had the third heaviest bushel weight and was 2.4 lbs. lighter than Compana. Newal was heavier than Titan by 0.3 lb. and exceeded Prospect and Plush by 1 lb. and 1.2 lbs. respectively. **Grades.**—Compana was superior to all varieties as 88 per cent. of its samples were in the two top grades. Rex had 37 per cent. of its samples in these grades. Prospect, Titan and Newal graded the same, while Plush was the lowest of the six varieties. **Smut.**—Loose smut attacked Rex most severely and did create a loss to Prospect. Compana appeared resistant and Titan showed a trace. Plush and Newal were only slightly infected. Rex suffered some loss from covered smut. Plush, Newal and Compana were slightly susceptible, while Prospect and Titan had no infection from this disease. **Rust.**—Leaf rust averages were higher than stem rust. Rex's averages were highest for both rusts. No stem rust was reported on Titan, Plush and Compana. In all other cases of leaf and stem rust the amount reported was very small. **Shattering.**—Rex, Titan and Compana were the highest with 1.7 per cent. shattering. Newal was second with 1.4 per cent. Prospect and Plush were lowest with 1.2 per cent. **Summary of Outstanding Characteristics.**—While Plush yielded slightly more bushels per acre than Newal it graded lower. It grew to the greatest height, excelled the others in straw strength and tied with Rex in having the greatest neck strength. It matured in average time and showed some susceptibility to leaf rust and smut. Newal yielded more bushels per acre than Rex, Titan, Compana and Prospect. It equalled Titan and Prospect in grade. It reached medium height compared to the varieties other than Compana, but was definitely weakest in straw and neck strength. Its length of time from seeding to ripening was average in comparison to the others. Newal showed slight susceptibility to smut and rust. Rex outyielded Prospect, Titan and Compana. Its bushel weight was very slightly higher than Compana, but did not grade as well. Rex took the longest time to mature, had good straw and neck strength, medium height, lost considerable from loose smut and some from covered smut, and was attacked by stem and leaf rust. Titan yielded higher than Prospect and Compana. Its grade was equal to Newal and Prospect, matured first, tying Prospect, had average straw and neck strength, was the second shortest in height, and was very slightly susceptible to loose smut and leaf rust. Compana outyielded Prospect. It graded the highest, matured in average time, equalled Prospect and Titan in straw strength, but was weaker in neck strength. Compana exhibited resistance to loose smut but showed slight susceptibility to covered smut. The reports did not state any stem rust was present on Compana and very little leaf rust. Prospect yielded lowest in number of bushels. It equalled Titan in maturity, was second in height, had medium straw and neck strength, was a loser to loose smut, but was free of covered smut and showed a trace of rust.

CEREAL VARIETY ZONES (GROUPED) 3D, 3F, 4A, and 4B

Table No. 16—Grain Yield.—Plush outyielded Titan by 10.5 bus. per acre, Newal by 12.3 bus. per acre, Rex by 18.2 bus. per acre, Compana by 19.7 bus. per acre and Prospect by 24.1 bus. per acre. All five differences were greater than the necessary difference of 6.36, so it is very evident that

TABLE No. 16.—SUMMARIZATION OF RESULTS FOR GROUPING OF ZONES
3D, 3F, 4A AND 4B

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	46.8	40.9	54.5	65.0	52.7	45.3
Days from sowing to ripening	100.2	98.8	97.6	100.4	99.8	99.8
Height of plants in inches	37.8	35.1	31.9	36.1	35.2	28.9
Straw strength	9.3	8.3	8.6	8.1	8.1	8.7
Neck strength	1.7	1.7	1.6	1.7	2.4	2.3
Bus. weight in lbs.	51.6	48.0	48.3	48.5	49.1	50.2
Commercial grades in percentage						
1 C.W. 2-Row .....	....	....	....	....	....	12
2 C.W. 2-Row	38	....	....	....	....	25
3 C.W. 6-Row .....	....	50	50	50	88	....
1 Feed	50	38	38	38	....	51
2 Feed	12	12	12	....	....	12
3 Feed .....	....	....	....	12	12	....

Necessary difference—6.36 bus.

Plush significantly outyielded all others. Titan significantly yielded higher than Rex, Compana and Prospect. Similarly, Newal outyielded Compana and Prospect significantly. **Earliness.**—Titan matured first, then Prospect, Newal and Compana tied for third place, Rex came next, and Plush last. The time taken for the barleys to reach maturity in this area was longer than in any of the other areas. **Height.**—Rex was the tallest, reaching a height of 37.8 inches, which was the highest of any variety in any of the areas. Plush was 1.7 inches shorter than Rex. Newal 2.6 inches, Prospect 2.7 inches, Titan 5.9 inches and Compana 8.9 inches. **Straw Strength.**—Rex excelled in straw strength and the others ranked as follows: Compana, Titan, Prospect, Plush and Newal tied and were the weakest. **Neck Strength.**—Titan led in neck strength, Rex, Prospect, and Plush were equal and were close in strength to Titan. Compana and Newal were undoubtedly the weaker varieties with the latter being the weaker of the two. **Bushel Weight.**—Rex was superior, outweighing the next closest variety Compana by 1.4 lbs. Newal came third weighing 2.5 lbs. lighter than Rex, Plush was 3.1 lbs. lighter, Titan 3.3 lbs. lighter and Prospect was last, just tipping the scales at the exact standard weight. **Grades.**—Compana was the only variety to have any of its samples in the top grade and for this reason made a better showing than Rex. Prospect and Titan had the same proportions of their samples in corresponding grades. Plush was slightly poorer and Newal was better than Prospect and Titan. **Smut.**—All varieties suffered losses from loose smut. In order of magnitude they were Rex, definitely the heaviest, Newal, Prospect, Plush, Titan and Compana being equal losers. Only a trace of covered smut was reported for each variety. **Rust.**—Leaf rust was reported as being heavier than stem rust. Plush had the greatest leaf infection, with the others ranking as follows: Rex, Prospect, Titan, Compana and Newal. **Shattering.**—Prospect appeared the worst in this respect with 1.8 per cent. loss and Compana the lightest loser with 0.2 per cent. loss. The four others were within these two amounts and ranged in order of decreasing loss, Plush, Rex, Newal and Titan. **Summary of Outstanding Characteristics.**—The difference between the yield of Plush and its closest rival, Titan, was larger than the necessary difference. Hence it significantly outyielded the other barleys, but was the poorest in grade. Plush was the longest in maturing and exceeded the length of time for all areas. It was the second tallest in growth, equalled Newal in having the weakest straw strength, had medium neck strength, suffered a small loss from loose smut, exhibited a trace of covered smut, and had the heaviest leaf rust infection. Newal yielded significantly higher than Compana and Prospect and graded and weighed better than any of the six-row varieties, ripened in average time, had medium height, was inferior in both straw and neck strength. Its yield was slightly reduced on account of loose smut, showed a trace of covered smut and some rust. Titan's yield was significantly higher than Rex, Compana and Prospect. It graded fairly well, but its bushel weight was a little below average in comparison with the other varieties. Titan ripened the earliest, was the second tallest, ranked top in neck strength and midway in straw strength. It sustained a small loss from loose smut, had a trace of covered smut and was susceptible to rust. Rex excelled in bushel weight, but was inferior to Compana in grade. Its height of 37.8 inches exceeded all heights in all areas. It was late in maturing, had

the greatest straw strength and medium neck strength. Rex was quite susceptible to loose smut, had a trace of covered smut and proved to be a fair host to rust. Compana was superior in grade to the others, matured in the same length of time as Newal, was the shortest in growth, had fair straw strength, but lacked neck strength. It was not completely disease resistant. Prospect produced the smallest number of bushels per acre, but all the other varieties did not significantly outyield it. In comparison with the others Prospect was midway or slightly better in earliness, height, straw and neck strength, smut and rust resistance and grade, but had the lowest bushel weight.

CEREAL VARIETY ZONE 3E

TABLE No. 17.—SUMMARIZATION OF RESULTS FOR ZONE 3E

	Rex	Prospect	Titan	Plush	Newal	Compana
Yield in bus. per acre	39.7	37.5	45.5	51.6	52.4	40.9
Days from sowing to ripening	97.4	95.0	95.4	98.4	96.1	96.3
Height of plants in inches	34.0	32.6	30.4	33.8	32.7	27.7
Straw strength	9.3	9.1	9.1	9.0	8.5	8.5
Neck strength	1.6	1.5	1.8	1.7	2.8	1.5
Bus. weight in lbs.	52.0	48.2	48.8	48.7	49.3	51.1
Commercial grades in percentage						
2 C.W. 2-Row	36	....	....	....	....	55
3 C.W. 6-Row .....	....	36	45	45	55	....
1 Feed	64	55	55	45	27	45
2 Feed .....	....	....	....	10	18	....
3 Feed .....	....	9	....	....	....	....

Necessary difference—5.05 bus.

Table No. 17—**Grain Yield.**—The difference of 0.8 bus. in the yield per acre between Newal and Plush was far from giving the former a significant lead over the latter. However, both had significant differences over the remaining four varieties. Newal exceeded Titan by 6.9 bus. per acre, Compana by 11.5 bus., Rex by 12.7 bus. and Prospect by 14.9 bus. **Earliness.**—Prospect was earliest to ripen. Titan was 0.4 day later than Prospect, Newal 1.1 days later, Compana 1.3 days later, Rex 2.4 days later and Plush 3.4 days later. **Height.**—Rex was tallest with very little more length than Plush. Newal was third, having one-tenth of an inch more in height than Prospect, and Compana lacked 2.7 inches of equalling Titan. **Straw Strength.**—Rex excelled, Prospect and Titan tied for second place, Plush was third in strength, leaving Newal and Compana tied for fourth place. **Neck Strength.**—Prospect and Compana tied and were superior. Rex, Plush and Titan followed closely in the order mentioned. Newal was much inferior. **Bushel Weight.**—Rex was superior, outweighing Compana by 0.9 lb. The other four averages were less than the two-row varieties. In order of decreasing weights they were Newal, Titan, Plush and Prospect. **Grades.**—Compana was undoubtedly superior, having 55 per cent. of its samples in 2 C.W. 2R Grade. Rex had 36 per cent. of its samples in that grade. In the six-row barley, Newal and Titan did better than Prospect and Plush. **Smut.**—Rex's yield was reduced more than the others from loose smut. The losses of Newal, Prospect, Titan, Compana and Plush are in order of decreasing magnitude. Titan and Newal were reported as being free of covered smut, and the others suffered very slightly. **Rust.**—Both leaf and stem rust were present in this zone. The leaf form being in considerably larger amounts than the stem form. In both cases no variety escaped. Rex made the best host for the spores. In decreasing order of the leaf rust attack the varieties are Rex, Titan, Compana, Plush, Prospect and Newal. For stem rust the varieties are Rex, Titan, Newal, Plush, Prospect and Compana. **Shattering.**—Compana was the heaviest loser with 1.8 per cent. The others lost in the following order as named: Prospect and Titan tied, Newal, Rex and Plush. **Summary of Outstanding Characteristics.**—Newal and Plush significantly outyielded the others. Newal's yield was very little heavier than Plush, but the difference was by no means significant. Newal's bushel weight and grade exceeded Plush. In comparison to the other varieties it matured in average time, had medium height, was inferior in both straw and neck strength, was second heaviest loser from loose smut, was free from covered smut and was infected by rust. Plush required the most days to reach maturity, grew to almost the same height as the tallest variety, Rex, had medium

neck and straw strength, was quite resistant to smut and susceptible to rust. Titan's yield was significant over those of Rex and Prospect. Its bushel weight and grade were not high. It matured reasonable early in comparison with the others, was a little shorter strawed than the average, had medium straw and neck strength, had some loss from loose smut, no covered smut was reported and it was definitely susceptible to rust. Compana excelled in grade and was second in bushel weight, matured in average time, had the least length, had good neck strength, but was inferior in straw strength, was not completely resistant to smut and was susceptible to rust. Rex exceeded the others in bushel weight, height, smut losses, infection from rust and straw strength. It was second last to ripen, had good neck strength, and was second in grade. Prospect was the lowest in bushels per acre, but all varieties did not significantly outyield it. It had the lowest bushel weight, was first to mature, tied with Compana for greatest neck strength, had good straw strength, was susceptible to smut and distinctly susceptible to rust.

GENERAL SUMMARY OF VARIETAL PERFORMANCES

Varieties are Listed in Order of Decreasing Yields

This brief summary is only meant to give to the reader an idea of how the varieties performed over the Province as a whole. As previously stated this information is not to be used when choosing or recommending a variety of barley to be grown. What shows up well in a provincial average may not be suitable to a specific locality, due to varying climatic and soil conditions in the Province. So, again, we refer the reader to the pamphlet *Varieties of Grain Crops for Saskatchewan, 1945*, when making his final choice. In obtaining a provincial average the method employed was to add all zone totals and divide this aggregate total by the number of satisfactory tests in the Province.

PLUSH

Grain Yield.—Plush averaged 49.3 bushels per acre over the whole Province. It exceeded the other varieties by the following amounts: Newal, 2.4 bus., Titan by 6.3 bus., Rex by 11.0 bus., Compana by 11.8 bus. and Prospect by 15.5 bus. **Earliness.**—The average number of days that Plush required to reach maturity was 91.2 days which was the longest time taken by any variety. **Height.**—Plush's average height was 31.9 inches and was greatest of the six barleys. **Straw Strength.**—The straw strength of Plush was 8.8. This figure was equal to the figures for Titan and Prospect. Rex had the highest average, placing this group of three in second place. **Neck Strength.**—Plush's average neck strength was 1.6 tying with Prospect for second place. **Weight.**—Plush weighed on the average 48.6 lbs. per bus. This weight placed it second lowest, outweighing Prospect by 0.4 lb. **Grades.**—Plush was by no means near the top in grading. 7.9 per cent. of its samples were placed 2 C.W. 6R, 64.8 per cent. in 3 C.W. 6R, 21.6 per cent. in No. 1 Feed, 3.4 per cent. in No. 2 Feed, 2.3 per cent. in No. 3 Feed. **Smut.**—The loss sustained by Plush from loose smut was second lowest and that from covered was the least. **Rust.**—Plush was second highest in amount of infection reported on the leaves and third highest for the amount of stem infection. **Shattering.**—Plush suffered the third highest loss from shattering, the percentage being 3.4 per cent.

NEWAL

Grain Yield.—The average yield for Newal was 46.9 bus. per acre, thus putting Newal in second highest place. Its yield over the four lower yields were as follows: Titan 3.9 bus., Rex 8.6 bus., Compana 9.4 bus. and Prospect 13.1 bus. **Earliness.**—Newal was second latest in maturing. The time was 90.7 days which was one half a day shorter than Plush. **Height.**—The average height of this variety was 31.2 inches making it the fourth tallest. **Straw Strength.**—Newal's strength of straw was 0.5 less than a group of three which ranked second in strength and 0.3 stronger than the weakest. **Neck Strength.**—Newal showed definite inferiority in neck strength as compared to the others. **Weight.**—Newal's average bushel weight was exactly 49 lbs. It exceeded Plush by 0.4 lb. making it fourth in weight. **Grades.**—In grading, Newal was highest of the six-row varieties. 1.2 per cent. of its samples graded 1 C.W. 6R; 10.2 per cent. 2 C. W. 6R; 69.3 per cent. 3 C.W.;

10.2 per cent. 1 Feed; 6.8 per cent. 2 Feed and 2.3 per cent. 3 Feed. **Smut.**—Newal was second heaviest loser to loose smut. The averages for covered smut were very close together with the exception of Rex which was higher than the others. For this disease Newal ranked fourth most susceptible. **Rust.**—Leaf rust, reported for Newal gave it the lightest infection and similarly for stem rust. **Shattering.**—The average amount of shattering reported for the variety was 4.6 per cent., making it the second heaviest loser.

TITAN

Grain Yield.—Titan's average yield for the Province was 43 bus. per acre. This amount exceeded the yield per acre of Rex by 4.7 bus., Compana by 5.5 bus., and Prospect by 9.2 bus. **Earliness.**—Titan was the variety requiring the least number of days from sowing to ripening. This average was 0.2 day less than Compana's which was next in average time to mature. **Height.**—The height of Titan was 29.5 inches and was second to Compana which was the shortest. The difference in height between these two varieties was 4.1 inches. **Straw Strength.**—Titan ranked second strongest in this characteristic, equalling Prospect and Plush. **Neck Strength.**—Titan tied with Rex, showing superiority over the remaining four barleys. **Weight.**—Titan had only one-tenth of a pound more weight per bushel than Newal. This small margin made Titan third heaviest. **Grades.**—Titan graded lowest of the varieties. The highest grade its samples achieved was 3 C.W. 6R, 70.4 per cent. were in this grade, 23 per cent. in No. 1 Feed, 3.4 per cent. in No. 2 Feed and 1.2 per cent. in No. 3 Feed. **Smut.**—While Titan was not entirely resistant to loose smut it was the least susceptible of all varieties. It was the second most resistant to covered smut. **Rust.**—Titan appeared less resistant to stem rust than the others and ranked second in being the most susceptible to leaf rust. However, the differences between the varieties' averages for both forms of the disease were small. **Shattering.**—Titan's average was 3.2 per cent., placing it second lowest in loss sustained from this cause. Compana had superiority with one-tenth of one per cent. margin.

REX

Grain Yield.—Rex was fourth highest in the Province-wide summary. Its average was 38.3 bus. per acre, exceeding Compana by 0.8 bus. and Prospect by 4.5 bus. per acre. The average yield of Rex was 11 bus. less than Plush. **Earliness.**—Average time required by Rex from seeding to ripening was 90.3 days. This length of time placed Rex the fourth latest in maturing, being 0.9 day shorter than the last variety, Plush. **Height.**—Rex's average height of 31.3 inches put it in the position of fourth tallest. Plush the tallest variety differed from it by 0.6 inch. **Straw Strength.**—Rex excelled the varieties in strength of straw. **Neck Strength.**—In neck strength, Rex and Titan tied, leading with a slight margin over Prospect and Plush. **Weight.**—Rex outweighed the others with an average bushel weight of 51.8 lbs. It exceeded the other varieties by the following amounts: Compana 1.4 lbs., Titan 2.7 lbs., Newal 2.8 lbs., Plush 3.2 lbs. and Prospect 3.6 lbs. **Grades.**—Rex did not grade as well as Compana, yet certainly graded higher than the other four varieties, 5.7 per cent. of its samples being 1 C.W. 2R; 56.8 per cent. 2 C.W. 2R; 32.9 per cent. No. 1 Feed; 2.3 per cent. No. 2 Feed and 2.3 per cent. No. 3 Feed. **Smut.**—The yield of Rex was quite definitely reduced by both loose and covered smuts. It was the greatest loser in both cases, having a very decisive margin of loss over the others. **Rust.**—Rex and Newal tied in having the lowest per cent. of infection from stem rust. The situation was reversed for leaf rust infection, Rex being most heavily infected. **Shattering.**—The average for Rex was 4.5 per cent. which placed it fourth and 0.1 per cent. less than Newal.

COMPANA

Grain Yield.—Compana's average yield was 37.5 bus. per acre. This was only 0.8 bus. less than that of Rex, the next highest and 3.7 bus. per acre more than Prospect's average. **Earliness.**—Compana was 0.2 day longer in maturing than the earliest variety, Titan. It required 88.8 days which made it second in ripening. **Height.**—Compana was very definitely the shortest variety in the test. Its average of 25.4 inches was 4.1 inches less than Titan, the next tallest variety. **Straw Strength.**—Compana showed inferiority

to the other varieties in this characteristic. **Neck Strength.**—The neck strength average of Compana was not inferior to the other averages, but was second in weakness, being slightly less than Prospect and Plush, which were equal. **Weight.**—Compana lacked 1.4 lbs. of equalling Rex's weight. Its bushel weight of 50.4 lbs. gave it a 1.3 lbs. margin over the third heaviest variety, Titan. **Grades.**—Compana outgraded the other varieties by having the greatest number of samples in the higher grades, 7.9 per cent. being in 1 C.W. 2R, 60.2 per cent. in 2 C.W. 2R, 27.3 per cent. in No. 1 Feed 2.3 per cent. in No. 2 Feed and 2.3 per cent. in No. 3 Feed. **Smut.**—In both loose and covered smut, Compana ranked third in loss suffered. The destruction from smut in either case was not large, but there was evidence of some susceptibility to the disease. **Rust.**—In comparison with the others, Compana was fairly susceptible to stem rust, since it ranked fourth in susceptibility. In general the percentage of leaf rust was greater than that of stem rust. Compana ranked second in susceptibility to leaf infection. **Shattering.**—All varieties were losers. However, Compana's loss of 3.1 per cent. was the lowest of the six barleys in the test.

PROSPECT

Grain Yield.—Prospect's average yield of 33.8 bus. per acre was the lowest. Its yield was 3.7 bus. per acre less than its nearest competitor and 15.5 bus. per acre less than Plush which was the highest yielder. **Earliness.**—Prospect matured in 89.2 days which was 0.6 day longer than Titan, the earliest maturing variety. This average number of days required from sowing to ripening made Prospect third earliest. **Height.**—The average height attained by Prospect was 31.7 inches. This height brought it within 0.2 inch of equalling Plush the tallest barley. Rex's average was 0.4 inch shorter than Prospect. **Straw Strength.**—Prospect equalled Titan and Plush in straw strength. These three varieties were excelled only by Rex. **Neck Strength.**—In neck strength, Prospect tied with Plush and these two were second to Rex and Titan, which tied in having the highest averages. **Weight.**—Prospect's bushel weight was the lowest. It weighed 0.4 lb. less than the second lightest variety, Plush. **Grades.**—Prospect by no means graded high, but nevertheless was not the lowest. It had 9.1 per cent. in grade 2 C.W. 6R, 57.9 per cent. in grade 3 C.W. 6R, 26.1 per cent. in No. 1 Feed, 4.6 per cent. in No. 2 Feed and 2.3 per cent. in No. 3 Feed. **Smut.**—Prospect lost slightly in yield on account of loose smut. Compared to the others it was the third heaviest sufferer from this disease. Prospect ranked second in loss from covered smut. **Rust.**—Prospect's averages for both leaf and stem rust were second lowest in the amount of infection present. **Shattering.**—The average 5.2 per cent. marked Prospect as the variety losing the greatest percentage of its grain from this cause.

TABLE No. 18

Individual Summarized Results of Barley Tests

WHEAT POOL DISTRICT 1

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
KENNETH R. TRUSCOTT, ALAMEDA											
3A	1	3	Rex	22.1	25	79	9.8	1.0	48	1 Feed	
			Prospect	19.0	28	78	7.2	2.2	43	2 Feed	L.w.
			Titan	19.8	23	75	8.2	2.8	38	3 Feed	L.w.
			Plush	40.1	25	81	9.0	1.0	46	1 Feed	B.p.
			Newal	36.8	28	80	7.2	2.0	46	3 CW 6-R	
			Compana ..	15.5	23	74	8.0	2.5	39	3 Feed	L.w.
Necessary difference—3.07 bus.											

ALLAN M. DUNNIGAN, ALAMEDA											
3A	1	3	Rex	42.9	35	88	7.8	2.0	52	2 CW 2-R	
			Prospect	36.5	43	88	7.8	2.0	51	2 CW 6-R	
			Titan	53.1	41	88	7.8	2.5	50	1 Feed	B.p.
			Plush	59.3	40	88	7.8	2.0	51	2 CW 6-R	
			Newal	61.1	43	88	8.0	2.2	50	2 CW 6-R	
			Compana ..	44.5	40	88	7.8	2.2	53	2 CW 2-R	
Necessary difference—9.78 bus.											

GEORGE WILLIAM CHAMNEY, KINGSFORD											
2A	1	4	Rex	43.7	31	86	4.0	2.0	50	2 CW 2-R	
			Prospect	36.5	32	90	5.0	2.0	46	3 CW 6-R	
			Titan	52.3	32	83	3.0	2.2	48	3 CW 6-R	
			Plush	66.8	34	90	6.5	2.2	48	3 CW 6-R	
			Newal	68.4	34	90	5.8	2.2	48	3 CW 6-R	
			Compana ..	31.8	30	82	1.0	2.0	43	2 Feed	L.w.
Necessary difference—4.7 bus.											

ORDEEN VICTOR SOVDI, OUTRAM											
2A	1	6	Rex	55.4	43	87	9.2	1.2	52	2 CW 2-R	
			Prospect	43.8	33	85	9.8	1.2	49	2 CW 6-R	
			Titan	61.6	36	85	10.0	1.0	50	1 Feed	B.p.
			Plush	63.8	36	87	9.2	1.2	49	2 CW 6-R	
			Newal	65.1	34	82	9.8	2.0	50	1 CW 6-R	
			Compana ..	36.1	27	87	8.8	2.0	49	2 CW 2-R	
Necessary difference—8.2 bus.											

KENNETH WILFRED OXELGREN, TRIBUNE											
2A	1	7	Rex	49.8	39	87	9	1	53	2 CW 2-R	
			Prospect	39.0	41	87	7	2	45.5	2 CW 6-R	
			Titan	67.0	40	87	9	1	51	3 CW 6-R	
			Plush	65.6	39	87	5	1	49.5	2 CW 6-R	
			Newal	57.2	37	87	4	3	50	2 CW 6-R	
			Compana ..	55.3	30	87	5	1	50	2 CW 2-R	
Necessary difference—3.9 bus.											

MARJORIE GERTRUDE HEWLETT, GRIFFIN											
2A	1	8	Rex	56.9	33	81	10	1	51	2 CW 2-R	
			Prospect	71.7	37	81	7	1	48	3 CW 6-R	
			Titan	64.2	33	76	8	1	49	3 CW 6-R	
			Plush	60.6	35	81	7	2	48	3 CW 6-R	
			Newal	59.7	35	82	5	2	47	3 CW 6-R	
			Compana ..	44.3	28	76	7	1.2	47	1 Feed	L.w.
Necessary difference—7.12 bus.											

WILLIAM McSPARRON HOUSTON, KISBEY											
3A	1	9	Rex	31.7	39	87	10	1.4	53	2 CW 2-R	
			Prospect	30.9	36	83	9.8	2	49	3 CW 6-R	Pl.
			Titan	43.5	35	82	10	1	48	3 CW 6-R	
			Plush	48.8	38	87	9.5	1.8	49	3 CW 6-R	
			Newal	44.6	36	87	8.5	3	50	3 CW 6-R	
			Compana ..	34.1	30	80	10.0	1	49	2 CW 2-R	
Necessary difference—7.6 bus.											

EMIL OLIVER DANGSTORP, WAUCHOPE											
3A	1	10	Rex	10.4	....	92	....	....	42	3 Feed	L.w.
			Prospect	9.6	....	92	....	....	42	3 Feed	L.w.
			Titan	7.3	....	92	....	....	43	2 Feed	W. M.
			Plush	9.7	....	92	....	....	41	3 Feed	L.w.
			Newal	16.5	....	92	....	....	41	3 Feed	L.w.
			Compana ..	6.4	....	94	....	....	41	3 Feed	L.w.
No significant grain yield difference between varieties.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

2A 1 5 Victor Clifton Sellsted, Benson.

WHEAT POOL DISTRICT 2

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per meas- ured bus.	Com- mercial grades	Grading remarks
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DARRYL RASMUSSEN, RADVILLE

2A	2	1	Rex	46.3	39	90	9	1	50	2 CW 2-R	
			Prospect	39.7	42	89	8.8		48	3 CW 6-R	Dc.
			Titan	52.9	38	88	9	1	49	3 CW 6-R	Pl.
			Plush	58.9	38	93	7.8	2	48	3 CW 6-R	Dc.
			Newal	54.2	39	92	7.5	2.5	49	2 CW 6-R	
			Compana ..	42.0	32	91	6.5	1	48	2 CW 2-R	Sl.w.

Necessary difference—8.3 bus.

ROSS HARVEY McKEE, STRATHALLEN

1A	2	5	Rex	22.4	25	123	9.2	1	53	2 CW 2-R	
			Prospect	23.8	24	120	9.2	1	48	1 Feed	Pl.
			Titan	30.5	22	114	8.8	1.5	49	3 CW 6-R	
			Plush	16.4	22	128	9.2	2	48	1 Feed	Pl.
			Newal	18.1	21	128	9.5	1.8	49	3 CW 6-R	
			Compana ..	24.4	19	111	7.8	1.8	51	2 CW 2-R	

No significant grain yield difference between varieties.

JAMES JOHN KNOX, VALOR

1A	2	7	Rex	34.2	36	89	9.2	1	54	2 CW 2-R	
			Prospect	34.4	36	89	9	1.2	52	3 CW 6-R	
			Titan	39.3	36	90	8.8	1.2	52	3 CW 6-R	
			Plush	38.0	33	91	9	1.5	52	3 CW 6-R	
			Newal	30.7	36	93	8.8	2	52	3 CW 6-R	
			Compana ..	37.1	26	89	7.5	2	52	2 CW 2-R	

No significant grain yield difference between varieties.

RALPH O. BIRCHARD, VERWOOD

1A	2	8	Rex	18.2	18	85	7	2	51	2 CW 2-R	
			Prospect	15.9	21	84	9	2	46	3 CW 6-R	L.w.
			Titan	20.1	15	81	6.8	1	50	3 CW 6-R	
			Plush	17.8	21	86	8.5	1.2	48	3 CW 6-R	
			Newal	19.4	19	82	9	1	47	3 CW 6-R	
			Compana ..	19.2	13	80	6	2.8	49	2 CW 2-R	

Necessary difference—1.95 bus.

CARL McKERRACHER, HORIZON

1A	2	9	Rex	25.4	...	...	...	...	51	1 Feed	M.
			Prospect	23.8	...	...	...	...	49	3 CW 6-R	
			Titan	26.8	...	...	...	...	51	3 CW 6-R	
			Plush	29.4	...	...	...	...	50	3 CW 6-R	
			Newal	18.0	...	...	...	...	49	3 CW 6-R	
			Compana ..	26.0	...	...	...	...	50	1 Feed	G.m.

Necessary difference—5.05 bus.

CHARLES ANDREW LOUCKS, PANGMAN

1A	2	10	Rex	34.8	27	89	7.5	2	51	1 Feed	M.
			Prospect	31.4	30	85	8.2	2	46	3 CW 6-R	
			Titan	34.7	32	86	7.2	2	48	1 Feed	St. M.
			Plush	36.7	33	87	9	2.8	46.5	3 CW 6-R	
			Newal	33.1	31	88	9	2.5	46	3 CW 6-R	
			Compana ..	33.1	32	87	8	1.8	48	1 Feed	M.

No significant grain yield difference between varieties.

2A	2	2	Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes								
1A	2	4	Helen Almeda Culver, Hardy								
1A	2	6	Lyle Perrier, Scout Lake								
1A	2	7	Emille Greffard, Fir Mountain								
			George Clocea, Flintoft								

WHEAT POOL DISTRICT 3

GORDON DOUGLAS RICHARDSON, MANKOTA

1A	3	1	Rex	10.4	...	...	...	...	54	1 Feed	M.
			Prospect	9.2	...	...	...	...	50	3 CW 6-R	
			Titan	9.7	...	...	...	...	51	3 CW 6-R	
			Plush	20.4	...	...	...	...	51	3 CW 6-R	
			Newal	13.4	...	...	...	...	50	3 CW 6-R	
			Compana ..	11.6	...	...	...	...	53	2 CW 2-R	

Necessary difference—3.87 bus.

Wheat Pool District 3—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
GEORGE HEALEY, FRONTIER											
1A	3	4	Rex	22.1	14	95	9	2.5	48.5	2 CW 2-R	
			Prospect	26.7	24	95	10	3.0	46	3 CW 6-R	L.w.
			Titan	30.6	...	95	10	3	46.5	3 CW 6-R	L.w.
			Plush	23.9	24	95	9	2.5	43	2 Feed	L.w.
			Newal	20.4	24	95	9.5	2.8	43	2 Feed	L.w.
			Compana ..	22.1	15	95	9	2.5	46	1 Feed	L.w.
Necessary difference—5.3 bus.											
ALAN R. TOMLINSON, CRICHTON											
1A	3	9	Rex	6.8	26	...	...	...	54	2 CW 2-R	
			Prospect	4.7	26	...	...	...	48	3 CW 6-R	
			Titan	4.9	25	...	...	...	50	3 CW 6-R	
			Plush	15.4	24	...	...	...	49	3 CW 6-R	
			Newal	6.4	25	...	...	...	48	3 CW 6-R	
			Compana ..	3.3	25	...	...	...	50	1 CW 2-R	
No significant grain yield difference between varieties.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
1A	3	2	John Joseph Harbor, Masefield								
1A	3	3	Roy H. Bitschy, Climax								
1A	3	5	Paul Wenaas, Robsart								

WHEAT POOL DISTRICT 4

MADELEINE MARGARET TUSTIAN, MAPLE CREEK											
1B	4	2	Rex	26	21	87	10	...	49.5	2 CW 2-R	
			Prospect	17.9	18	86	10	...	48	2 CW 6-R	
			Titan	9.9	15	84	8	...	49	3 CW 6-R	Sl.g.
			Plush	31.6	23	87	10	...	45.5	2 Feed	
			Newal	25.1	17	86	10	...	45	1 Feed	
			Compana ..	33.2	15	85	9	...	51.5	2 CW 2-R	
Necessary difference—3.28 bus.											
EARL JOSEPH CHISHOLM, LINACRE											
1B	4	7	Rex	29.0	...	...	...	...	52	2 CW 2-R	
			Prospect	18.4	...	...	...	...	50	1 Feed	Pl.
			Titan	40.2	...	...	...	...	51	3 CW 6-R	
			Plush	33.0	...	...	...	...	51	3 CW 6-R	
			Newal	23.8	...	...	...	...	50	3 CW 6-R	
			Compana ..	34.1	...	...	...	...	53	2 CW 2-R	
Samples bulked.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
1B	4	6	Lloyd Redich, Maple Creek								
1B	4	8	Lewis Edwin McIntyre, Prelate								
1A	4	9	Wendel Kost, Lemsford								

WHEAT POOL DISTRICT 5

PAUL MORITZ MANG, ARBUTHNOT											
1A	5	2	Rex	32.8	...	...	...	...	54	2 CW 2-R	
			Prospect	39.2	...	...	...	...	50	3 CW 6-R	
			Titan	43.0	...	...	...	...	51	3 CW 6-R	
			Plush	25.3	...	...	...	...	51	3 CW 6-R	
			Newal	40.3	...	...	...	...	49	3 CW 6-R	
			Compana ..	35.6	...	...	...	...	51	2 CW 2-R	
Samples bulked.											
MAVIS JUNE HERBERT, MORTLACH											
1A	5	7	Rex	38.6	31	96	9.2	1	56	2 CW 2-R	
			Prospect	30.6	36	96.2	9.2	1.5	52	3 CW 6-R	
			Titan	41.1	34	95	10	1.2	52	3 CW 6-R	
			Plush	36.1	36	96.8	10	1.2	51	3 CW 6-R	
			Newal	40.8	40	96	8.8	2	52	3 CW 6-R	
			Compana ..	35.8	28	96	9.5	1.2	55	1 CW 2-R	
Necessary difference—3.95 bus.											
PATRICK WILLIAMS, HALVORGATE											
1A	5	9	Rex	44.7	...	92.1	7	1.8	49	1 Feed	M.
			Prospect	51.2	...	96	8	2.8	49	3 CW 6-R	
			Titan	73.6	...	98	8.2	1.8	48	3 CW 6-R	
			Plush	64.1	...	98	8	1.8	46	3 CW 6-R	
			Newal	71.6	...	96	8.2	2.2	47	3 CW 6-R	
			Compana ..	53.2	...	93	8.2	2	48	1 Feed	I.
Necessary difference—9.6 bus.											

Wheat Pool District 5—Continued

Cereal Variety Zone	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
JOHN RICHARD SMITH, CALDERBANK										
1A	5	10	Rex	59.5	24	88	8	51	2 CW 2-R	
			Prospect	36.8	35	88	1	47.5	3 CW 6-R	
			Titan	74.1	28	88	4	50	1 Feed	
			Plush	91.8	32	88	7	47.5	3 CW 6-R	L.w.
			Newal	70.4	30	88	3	50	2 CW 6-R	
			Compana ..	59.5	31	88	8	50.5	2 CW 2-R	
Necessary difference—7.05 bus.										
Tests Discarded on Account of Severe Damage by Drought, Hall, Pests or Other Causes										
1A	5	1	Douglas Mitchell, Mossbank							
1A	5	5	Lowell Eldon Janzen, Kelstern							
2C	5	3	Milbourne Davis, Neville							

WHEAT POOL DISTRICT 6

JOHN W. FILAZEK, SPRING VALLEY										
1A	6	4	Rex	37.8	28	82	9.5	52	2 CW 2-R	
			Prospect	36.6	33	81	10	47	3 CW 6-R	
			Titan	51.2	33	81	10	50.5	3 CW 6-R	
			Plush	46.9	34	85	10	46	1 Feed	L.w.
			Newal	46.8	35	85	10	45.5	2 Feed	L.w.
			Compana ..	43.7	24	81	8.5	50.5	1 Feed	W.
Necessary difference—3.25 bus.										
GORDON ERNEST TYSDAL, BRIERCREST										
1A	6	5	Rex	44	36	88	9	53	1 Feed	M.
			Prospect	44.8	40	85	9.5	52	3 CW 6-R	
			Titan	47.8	33	86	7.8	53	3 CW 6-R	
			Plush	65.3	38	93	8	52	3 CW 6-R	
			Newal	50.0	36	90	9	52	3 CW 6-R	
			Compana ..	57.5	28	90	5	53	2 CW 2-R	
No significant grain yield difference between varieties.										
RICHARD CARL STRAYER, DRINKWATER										
2E	6	6	Rex	36.5	37	91	8.2	50	2 CW 2-R	
			Prospect	19.1	39	93	9.8	51	3 CW 6-R	
			Titan	36.2	36	92	8.2	51	3 CW 6-R	
			Plush	49.2	38	91	6.8	50	3 CW 6-R	
			Newal	40.8	36	91	8	49	3 CW 6-R	
			Compana ..	41.2	31	89	1.5	49	2 CW 2-R	
Necessary difference—8.9 bus.										
Tests Discarded on Account of Severe Damage by Drought, Hall, Pests or Other Causes										
3C	6	9	Wm. Douglas Norton, Balcarres							

WHEAT POOL DISTRICT 7

DONALD WILLIAM DEBENHAM, KENNEDY										
3A	7	3	Rex	39.2	38	93	9	52	2 CW 2-R	
			Prospect	48.4	33	94	9	49	3 CW 6-R	
			Titan	54	26	93	9	49	3 CW 6-R	
			Plush	51.7	37	97	9	48	3 CW 6-R	
			Newal	38.2	35	94	8	49	3 CW 6-R	
			Compana ..	40.6	25	91	5	47	1 Feed	L.w.
Necessary difference—7.15 bus.										
EDWARD DAKU, KIPLING										
2A	7	4	Rex	31.1	46	88	8.2	49.5	2 CW 2-R	
			Prospect	25.8	35	88	8.8	46	3 CW 6-R	Pl.
			Titan	39.6	42	90	9	47.5	1 Feed	Dgd.
			Plush	36.6	37	88	8.5	48	3 CW 6-R	W.
			Newal	32	36	90	8.2	49.5	3 CW 6-R	W.
			Compana ..	19.1	40	87	8.5	49.5	2 CW 2-R	W.
Necessary difference—6.45 bus.										
CHARLES MCKENZIE DUTHIE, CREELMAN										
2A	7	5	Rex	35.8	....	....	....	53	2 CW 2-R	
			Prospect	25.6	....	....	....	48.5	2 CW 6-R	
			Titan	38.2	....	....	....	50	3 CW 6-R	
			Plush	43	....	....	....	49	3 CW 6-R	Pl.
			Newal	37.8	....	....	....	50	2 CW 6-R	
			Compana ..	33.8	....	....	....	50.5	2 CW 2-R	
No significant grain yield difference between varieties.										

Wheat Pool District 7—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per meas- ured bus.	Com- mercial grades	Grading remarks
RAY URBAN THOROUGHGOOD, WOLSELEY											
3A	7	7	Rex	35.6	38	96	8.5	1.5	51.5	1 Feed	E.w.
			Prospect	20.9	40	101	9.5	1.8	47.5	1 Feed	B.w.
			Titan	39.6	34	93	9.8	1.2	50.5	1 Feed	W.
			Plush	42.8	39	101	8.8	1.5	48	1 Feed	B.w.
			Newal	43.9	39	104	9	2.8	48	1 Feed	B.w.
			Compana ..	41.3	29	93	9.8	1.2	49.5	1 Feed	W.
Necessary difference—6.35 bus.											

KENNETH D. MOULDING, BROADVIEW											
3A	7	7	Rex	45	31	68	9	1	53.5	2 CW	
			Prospect	40	28	68	8.8	1	50.5	1 Feed	Pl.
			Titan	56	22	68	9	1	50	3 CW	I.
			Plush	62.8	29	68	8.8	1	50.5	3 CW	Pl.
			Newal	64.7	29	69	9	1	51.5	3 CW	I.
			Compana ..	49.2	25	68	9	1	52.5	2 CW	I.
Necessary difference—9.5 bus.											

JOHN G. DOUGLAS, ROCANVILLE											
3B	7	8	Rex	52.6	24	...	8	3	53	2 CW 2-R	
			Prospect	50.2	17	...	5.5	2	48	2 CW 6-R	
			Titan	64	16	...	2.8	1	49	1 Feed	B.w.
			Plush	71.5	23	...	5.8	1.8	48.5	2 CW 6-R	
			Newal	66.2	24	...	4	2.8	49.5	2 CW 6-R	
			Compana ..	40.2	17	...	4.2	1.5	49	2 CW 2-R	
Necessary difference—7.95 bus.											

GEORGINA HELLEWELL, SPY HILL											
3B	7	9	Rex	53.9	43	88	10	1	54	2 CW 2-R	
			Prospect	53.9	44	88	10	1	50	3 CW 6-R	
			Titan	51.7	38	87	10	1	51	3 CW 6-R	
			Plush	59.3	41	90	10	1	51	3 CW 6-R	
			Newal	77.5	40	89	9	3	53	3 CW 6-R	
			Compana ..	53.6	28	88	10	1	52	2 CW 2-R	B.p.
Necessary difference—8.97 bus.											

ALGOT LANCELOT FORSBERG, STOCKHOLM											
3C	7	10	Rex	58.5	...	...	8	1.8	53.5	2 CW 2-R	
			Prospect	51.1	...	...	8	2	48.5	3 CW 6-R	Pl.
			Titan	62.5	...	...	8	2	49	3 CW 6-R	Pl.
			Plush	61.9	...	...	9	1.2	46	3 CW 6-R	
			Newal	62.2	...	...	7	3	49	3 CW 6-R	
			Compana ..	57	...	...	8	2	49	2 CW 2-R	
Necessary difference—5.77 bus.											

HARRY MICKAEL HOEDEL, KILLALEY											
3B	7	11	Rex	41.8	35	94	...	...	51.5	2 CW 2-R	
			Prospect	55.1	38	98	...	...	47.5	2 CW 6-R	
			Titan	55	36	98	...	...	49.5	1 Feed	W. Sl.e.
			Plush	67.3	36	99	...	...	48	2 CW 6-R	
			Newal	52.8	36	97	...	...	47	3 CW 6-R	L.w.
			Compana ..	39.4	26	94	...	...	48	1 Feed	L.w.
No significant grain yield difference between varieties.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
3A	7	6	Walter W. Rieder, Peebles.								

WHEAT POOL DISTRICT 8

LEONARD ADAMS, MACNUTT											
3B	8	1	Rex	67	...	...	...	...	51	2 CW 2-R	
			Prospect	38.7	...	...	...	...	48.5	3 CW 6-R	W.
			Titan	60.8	...	...	...	...	50	3 CW 6-R	W.
			Plush	91.8	...	...	...	...	50	3 CW 6-R	
			Newal	90.3	...	...	...	...	49.5	3 CW 6-R	
			Compana ..	59.6	...	...	...	...	49	2 CW 2-R	
Necessary difference—7.7 bus.											

LYDD INGLIS, ROKEBY											
3B	8	2	Rex	56.8	30	83	8.1	1.2	52.5	1 CW 2-R	
			Prospect	58.4	33	83	8.8	1.2	48.5	3 CW 6-R	
			Titan	57.7	35	81	9.1	1.2	49	3 CW 6-R	
			Plush	66.1	32	81	9.1	1.5	47.5	3 CW 6-R	L.w.
			Newal	72.3	36	82	9	1.2	48.5	3 CW 6-R	
			Compana ..	39.9	18	83	7.8	1.5	46.5	1 Feed	L.w.
Necessary difference—5.65 bus.											

Wheat Pool District 8—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
JOHN MICHAEL KOSA, MELVILLE											
3C	8	3	Rex	38.9	....	....	....	....	52	1 Feed	M.
			Prospect	33.8	....	....	....	....	51	3 CW 6-R	
			Titan	36.9	....	....	....	....	53	3 CW 6-R	
			Plush	38.3	....	....	....	....	50	3 CW 6-R	
			Newal	43.7	....	....	....	....	51	2 CW 6-R	
			Compana ..	36.7	....	....	....	....	54	2 CW 2-R	
No significant grain yield difference between varieties.											
GEORGE E. LAZURKO, JEDBURGH											
4A	8	4	Rex	60.8	....	....	....	....	52.5	2 CW 2-R	
			Prospect	52.0	....	....	....	....	48	3 CW 6-R	W.
			Titan	71.4	....	....	....	....	48	3 CW 6-R	B.w.
			Plush	86.4	....	....	....	....	50	3 CW 6-R	
			Newal	67.2	....	....	....	....	49	3 CW 6-R	
			Compana ..	62.6	....	....	....	....	52	1 CW 2-R	
Necessary difference—6.02 bus.											
MICHAEL M. TOMLIN, VEREGIN											
3B	8	5	Rex	31.9	25	81	....	1	54	1 Feed	M.
			Prospect	29.6	28	83	....	1	48	3 CW 6-R	
			Titan	38.2	26	81	....	1	51	3 CW 6-R	
			Plush	34.4	27	85	....	1	52	3 CW 6-R	
			Newal	39.0	27	82	....	2	53	3 CW 6-R	
			Compana ..	39.4	25	80	....	1	55	2 CW 2-R	
Necessary difference—5.15 bus.											
EUNICE KURLIAK, BURGIS											
3C	8	6	Rex	6.4	....	....	....	....	51	1 Feed	M. *
			Prospect	3.6	....	....	....	....	46	1 Feed	Pl. & W.
			Titan	5.6	....	....	....	....	47	1 Feed	Pl. B.p.
			Plush	8.5	....	....	....	....	48	1 Feed	Pl. B.p.
			Newal	7.4	....	....	....	....	49	1 Feed	M. Pl.
			Compana ..	8.1	....	....	....	....	52	1 Feed	M. B.p.
Samples bulked.											
THOMAS BROWN, PELLY											
3B	8	10	Rex	21.8	22	81	9.8	1.2	50	2 CW 2-R	
			Prospect	24.7	22	81	9.8	1.8	45.5	2 Feed	L.w.
			Titan	27.1	23	80	9.8	1	47	1 Feed	L.w.
			Plush	24.3	23	80	9.8	2	46	1 Feed	L.w.
			Newal	26.2	22	83	10	3	45	2 Feed	L.w.
			Compana ..	21.7	20	80	8.8	1	46	1 Feed	L.w.
No significant grain yield difference between varieties.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
3B	8	8	Clarence J. Bartch, Sturgis								

WHEAT POOL DISTRICT 9

JOHNNY NISTOR, CUPAR											
3C	9	2	Rex	32.2	....	....	....	....	51.5	1 CW 2-R	
			Prospect	28.3	....	....	....	....	48	3 CW 6-R	
			Titan	39.8	....	....	....	....	49	3 CW 6-R	
			Plush	47.6	....	....	....	....	48.5	3 CW 6-R	
			Newal	34	....	....	....	....	48.5	3 CW 6-R	
			Compana ..	36.3	....	....	....	....	51	1 CW 2-R	
Necessary difference—6.92 bus.											
EARL D. WARD, EARL GREY											
3C	9	4	Rex	23.9	21	....	9.2	1.2	50.5	2 CW 2-R	
			Prospect	22.8	20	....	9.5	1.8	47	3 CW 6-R	L.w.
			Titan	28	18	....	8.5	2.8	46.5	3 CW 6-R	L.w.
			Plush	28.6	22	....	8.8	1	46.5	3 CW 6-R	L.w.
			Newal	28.4	21	....	9.2	1.8	48	3 CW 6-R	D.c.
			Compana ..	26.6	16	....	9.2	2.5	50.5	2 CW 2-R	
Necessary difference—2.67 bus.											
REINHOLD RUDOLF WODTKE, PUNNICHY											
3C	9	7	Rex	58.4	36	87	9.8	1	51	1 Feed	I. Stn.
			Prospect	44.5	36	79	10	1	46	3 CW 6-R	
			Titan	48.1	34	79	10	1	47	3 CW 6-R	
			Plush	68.8	36	84	10	1	48	3 CW 6-R	I. Stn.
			Newal	68.4	37	84	10	1	49	3 CW 6-R	
			Compana ..	54.6	30	78	10	1	52	2 CW 2-R	I.
Necessary difference—5.1 bus.											

Wheat Pool District 9—Continued

Cereal Variety Zone	Dist.	Sub- Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per meas- ured bus.	Com- mer- cial grades	Grading remarks
JOHN ALBERT VIRGIN, FOAM LAKE											
3C	9	9	Rex	47	37	85	8.8	1	49	3 Feed	M.
			Prospect	33.3	34	82	9.8	2	47.5	3 CW 6-R	W.
			Titan	47.8	31	82	9.5	1	48.5	3 CW 6-R	W.
			Plush	61.5	35	84	10	1.8	45.5	1 Feed	L.w.
			Newal	56.2	36	84	8	3	46.5	3 CW 6-R	W.
			Compana ..	38.2	25	84	10	2	50	2 CW 2-R	W.
Necessary difference—4.95 bus.											
Tests Discarded on Account of Severe Damage by Drought, Hall, Pests or Other Causes											
3C	9	1	Vladimer Leontowicz, Jasmin								
3C	9	3	Marjorie Louise George, Leross								

WHEAT POOL DISTRICT 10

DONALD JAMES McEWEN, RIVERHURST											
1A	10	2	Rex	39.8	23	86	7.5	2.2	51.5	2 CW 2-R	
			Prospect	36.7	24	85	7.5	3	49	2 CW 6-R	
			Titan	45.5	23	84	7	3	50	3 CW 6-R	
			Plush	48	25	89	8	3	48.5	2 CW 6-R	
			Newal	38.8	22	89	6	2	49	2 CW 6-R	
			Compana ..	37.6	22	86	7.8	3	50.5	2 CW 2-R	
Necessary difference—4.5 bus.											
GORDON MEADEN, BEECHY											
1A	10	3	Rex	38.4	26	77	10	1	54	2 CW 2-R	
			Prospect	31.3	30	75	10	1	48	3 CW 6-R	
			Titan	37.6	26	74	10	1	52	3 CW 6-R	
			Plush	52	29	78	10	1.5	50	3 CW 6-R	
			Newal	42.6	29	77	10	2	50	3 CW 6-R	
			Compana ..	35.5	22	76	10	1.2	54	2 CW 2-R	
Necessary difference—4.65 bus.											
JOHN KEITH NELSON, WISETON											
2F	10	4	Rex	22.4	33	87	10	1	52.5	1 CW 2-R	
			Prospect	21.6	31	82	10	1	49	3 CW 6-R	
			Titan	22.9	29	82	10	1	51	3 CW 6-R	
			Plush	32.3	32	88	10	2	49.5	3 CW 6-R	
			Newal	23.1	34	90	10	2.5	50	3 CW 6-R	
			Compana ..	27.3	25	85	10	1	52.5	1 CW 2-R	
Necessary difference—5 bus.											
WILLIAM GODDARD CRUICKSHANK, BRATTON											
2B	10	5	Rex	31.8	23	85	8.2	1.8	55	2 CW 2-R	
			Prospect	19.6	26	85	8	1.8	50	1 Feed	Pl.
			Titan	36.2	25	85	9.2	1	52	3 CW 6-R	
			Plush	50.9	26	86	7.8	1.5	53	3 CW 6-R	
			Newal	33.8	24	87	8.2	3	52	3 CW 6-R	
			Compana ..	31.3	19	85	6.8	1.8	54	2 CW 2-R	
Necessary difference—6.8 bus.											
GORDON ARTHUR BOOK, LOREBURN											
2B	10	6	Rex	27.5	30	84	9.8	2	52	2 CW 2-R	I.
			Prospect	29.2	31	83	9.8	2	48	3 CW 6-R	Th.
			Titan	27.4	29	83	10	1.8	50	3 CW 6-R	I.
			Plush	23.9	31	83	9.2	2	48	3 CW 6-R	Th.
			Newal	27.8	30	83	9.8	2	47.5	3 CW 6-R	Th.
			Compana ..	29	26	83	7.8	2	49	2 CW 2-R	Th.
Samples bulked.											
NORMAN VICTOR WOLFF, LIBERTY											
2B	10	8	Rex	53.3	33	90	10	1	52	2 CW 2-R	I.
			Prospect	44.8	36	86	9	1	48.5	3 CW 6-R	
			Titan	63.1	33	88	9.2	1	50	3 CW 6-R	Pl.
			Plush	53.3	36	87	9.8	1	47	3 CW 6-R	Pl.
			Newal	58.6	34	88	8.8	3	47	3 CW 6-R	I.
			Compana ..	53.6	26	85	7.8	1	50	2 CW 2-R	
No significant grain yield difference between varieties.											
GLADYS ARLENE CATTON, HANLEY											
2B	10	9	Rex	58.6	33	92	8	1	52	2 Feed	D.c.
			Prospect	46.5	34	95	9	3	47.5	3 CW 6-R	G.
			Titan	60.1	32	97	9	2	47.5	3 CW 6-R	G.
			Plush	82.6	35	94	10	3	49	2 CW 6-R	
			Newal	74	31	93	9	1	51	2 CW 6-R	
			Compana ..	55.9	25	96	8	2	51	2 CW 2-R	
Necessary difference—4.35 bus.											

Wheat Pool District 10—Continued

Cereal Variety Zone	Dist.	Sub- Dist.	Varieties	Yield bus. acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per meas- ured bus.	Com- mercial grades	Grading remarks
ELMER VERNON HANSON, TESSIER											
2B	10	10	Rex	32.2	27	82	8.8	1.8	51	2 CW 2-R	
			Prospect	34.5	30	81	10	1	48	3 CW 6-R	
			Titan	42.6	29	81	10	1	50	3 CW 6-R	
			Plush	41.6	30	83	9.5	1.5	49	3 CW 6-R	
			Newal	51.9	26	83	5	3	49	3 CW 6-R	
			Compana ..	33.8	26	82	10	1	51	2 CW 2-R	

Necessary difference—4 bus.

WHEAT POOL DISTRICT 11

ARON ROSS DAHL, MANTARIO											
1B	11	4	Rex	3.3	23	99	....	....	48	1 Feed	L.w.
			Prospect	5	21	96	....	....	46	1 Feed	Pl.
			Titan	13.2	21	98	....	....	48	1 Feed	Pl.
			Plush	18.1	23	100	....	....	46	3 CW 6-R	
			Newal	7.3	22	96	....	....	44	2 Feed	L.w.
			Compana ..	15.8	16	98	....	....	51	1 CW 2-R	

Necessary difference—2.00 bus.

TORGER JOHNSON, MARENGO											
1B	11	5	Rex	35.7	24	....	10	1.2	51.5	1 Feed	B.w.
			Prospect	20.6	25	....	10	2	48.5	3 CW 6-R	
			Titan	34.1	22	....	10	2	49	3 CW 6-R	
			Plush	42.9	27	....	10	1	49	3 CW 6-R	W.
			Newal	30.4	27	....	10	2.5	49	3 CW 6-R	
			Compana ..	33.5	20	....	10	1.2	52	2 CW 2-R	

Necessary difference—4.92 bus.

NELDA JUNE SCHMIDT, KINDERSLEY											
1A	11	6	Rex	18.6	21	106	8.8	2.8	52	2 CW 2-R	
			Prospect	13.7	18	106	8.5	2.5	49	3 CW 6-R	
			Titan	22.5	18	106	9	2.5	50	3 CW 6-R	
			Plush	25.8	18	106	9	2.2	49	3 CW 6-R	
			Newal	17.6	19	106	9	1	48	3 CW 6-R	
			Compana ..	21.3	19	106	9	2	53	1 CW 2-R	

Necessary difference—4.5 bus.

HENRY J. EVANS, ROSETOWN											
2F	11	7	Rex	32.4	....	....	....	....	52	2 CW 2-R	
			Prospect	20.8	....	....	....	....	46.5	3 CW 6-R	
			Titan	32.7	....	....	....	....	49.5	3 CW 6-R	
			Plush	44.2	....	....	....	....	46	3 CW 6-R	
			Newal	35.2	....	....	....	....	48	3 CW 6-R	
			Compana ..	23.4	....	....	....	....	51	2 CW 2-R	

Necessary difference—4.65 bus.

EARL ROBERT BARBEREE, BEAUFIELD											
1A	11	9	Rex	36.1	29	83	9.8	1.2	51	1 Feed	B.w.
			Prospect	21.4	32	83	10	1	45	1 Feed	G. I.
			Titan	26.4	28	81	10	1	48.5	3 CW 6-R	
			Plush	35	28	83	10	1	49	1 Feed	I. W.
			Newal	38.7	29	83	9	1.8	47.5	3 CW 6-R	
			Compana ..	27.3	30	78	10	1	50	1 Feed	W.

Necessary difference—3.6 bus.

ANTHONY RAYMOND REISS, MAJOR											
1B	11	10	Rex	25.5	....	....	....	....	50.5	2 CW 2-R	
			Prospect	13.6	....	....	....	....	48	3 CW 6-R	W.
			Titan	21.3	....	....	....	....	48	3 CW 6-R	
			Plush	33.3	....	....	....	....	49	3 CW 6-R	
			Newal	27.6	....	....	....	....	48.5	3 CW 6-R	
			Compana ..	20.6	....	....	....	....	50	2 CW 2-R	

Necessary difference—3.42 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
1A	11	1	James Vernon Rowlett Green, Sanctuary								
2F	11	8	Henry Edward Sawatzky, Herschel								

WHEAT POOL DISTRICT 12

Cereal Variety Zone	Dist.	Sub- Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed- ing to ripening	Straw strength	Neck strength	Lbs. per meas- ured bus.	Com- mercial grades	Grading remarks
LORNE IRVINE, BIGGAR											
2B	12	1	Rex	21.9	18	....	....	....	53	1 Feed	Pl.
			Prospect	19.5	21	....	....	....	49	1 Feed	Pl.
			Titan	24.9	20	....	....	....	47	1 Feed	Pl.
			Plush	29.3	18	....	....	....	50	1 Feed	Pl.
			Newal	27.6	22	....	....	....	49	1 Feed	Pl.
			Compana ..	24.1	20	....	....	....	52	1 Feed	G. I.
Necessary difference—3.45 bus.											

STEVE ELENKO, CANDO											
2D	12	2	Rex	45.05	29	93	10	2	52	1 Feed	B.w.
			Prospect	44.66	29	89	8	2	49	3 CW 6-R	W.
			Titan	54.79	28	91	8	1	49.5	3 CW 6-R	
			Plush	48.21	32	93	9	1	50	1 Feed	B.w. Sl.e.
			Newal	56.98	30	94	8	3	50	3 CW 6-R	
			Compana ..	45.48	30	92	8	2	52	2 CW 2-R	W.
Necessary difference—6.72 bus.											

ROBERT LIVINGSTONE CHARTERIS, DODSLAND											
2D	12	4	Rex	19.2	30	88	7.5	2	50	2 CW 2-R	
			Prospect	18.2	32	87	8	3	49	3 CW 6-R	Pl.
			Titan	18.2	32	87	8.2	3	48	3 CW 6-R	Pl.
			Plush	22.3	32	87	8.2	3	47	3 CW 6-R	
			Newal	22.6	32	87	8.5	3	48	3 CW 6-R	
			Compana ..	21.9	24	84	5.8	1.8	51	2 CW 2-R	
Necessary difference—2.25 bus.											

ARTHUR DONALD LEESON, UNITY											
2D	12	5	Rex	43.4	31	81	9	1	52	1 Feed	I. M.
			Prospect	28	34	82	9	1	47	1 Feed	B.p. Pl.
			Titan	43	29	80	9	1	50	3 CW 6-R	S.b.p.
			Plush	54.7	33	82	9	1.5	48	3 CW 6-R	I.
			Newal	49.5	32	82	9	3	48.5	3 CW 6-R	Sl.g.
			Compana ..	39.3	24	81	9	1	52.5	2 CW 2-R	Sl.i.
Necessary difference—4.42 bus.											

WILFRED LAWRENCE FEIL, CACTUS LAKE											
2D	12	6	Rex	0.8	24	93	7.2	1	....	
			Prospect	1.4	22	93	9	1.5	....	
			Titan	0.5	18	93	8.2	2	....	
			Plush	10.4	26	94	8	1	....	
			Newal	8.1	27	94	8.5	1	....	
			Compana ..	....	19	94	6.5	3	....	
Samples bulked.											

CHARLES GORDON FORBES, SENLAC											
2D	12	7	Rex	14.6	....	....	....	....	54	2 CW 2-R	
			Prospect	17.0	....	....	....	....	50	1 Feed	Pl.
			Titan	21.1	....	....	....	....	50	3 CW 6-R	
			Plush	36.3	....	....	....	....	51	3 CW 6-R	
			Newal	21.8	....	....	....	....	53	3 CW 6-R	
			Compana ..	22.4	....	....	....	....	54	2 CW 2-R	
Necessary difference—4.77 bus.											

ELMER JUNIOR BUSH, CUTKNIFE											
3E	12	9	Rex	45.6	38	....	....	....	53	2 CW 2-R	B.p.
			Prospect	43.8	37	....	....	....	49	3 CW 6-R	
			Titan	61.8	35	....	....	....	49	3 CW 6-R	
			Plush	70.4	37	....	....	....	50	3 CW 6-R	
			Newal	67.7	32	....	....	....	50	3 CW 6-R	
			Compana ..	45.5	30	....	....	....	52	2 CW 2-R	
Necessary difference—5.1 bus.											

WHEAT POOL DISTRICT 13

KENNETH MOLLE, ROMANCE											
3C	13	1	Rex	30.8	20	89	10	1	53	1 Feed	M.
			Prospect	30.8	25	86	8	1.5	49	3 CW 6-R	
			Titan	19.9	23	86	8.8	1	49	3 CW 6-R	
			Plush	28.8	24	87	8.8	1.2	49	3 CW 6-R	
			Newal	34.6	20	87	7.2	2.5	50	3 CW 6-R	
			Compana ..	14	16	87	7.8	1.5	52	2 CW 2-R	

No significant grain yield difference between varieties.

Wheat Pool District 13—Continued

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
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JAMES BROWER, LANGHAM

2B	13	6	Rex	26.7	55	2 CW 2-R	
			Prospect	16.8	52	1 Feed	Pl.
			Titan	28	51	1 Feed	Pl.
			Plush	38.2	....	....	....	....	53	1 Feed	Pl.
			Newal	29.7	....	....	....	....	52	3 CW 6-R	Pl.
			Compana ..	30.1	....	....	....	....	53	2 CW 2-R	

Necessary difference—4.7 bus.

EMILE DETILLIEUX, VONDA

2B	13	8	Rex	37.9	35	104	10	2	54	2 CW 2-R	
			Prospect	34.5	32	97	8.5	2	51	1 Feed	Pl.
			Titan	47.9	34	97	9	1	51	3 CW 6-R	
			Plush	48.9	32	99	9.2	1.2	51	3 CW 6-R	
			Newal	43.5	26	102	10	3	51	3 CW 6-R	
			Compana ..	42.1	21	97	4	2	54	2 CW 2-R	

Necessary difference—6.77 bus.

DENNIS STRUCK, PILGER

3B	13	10	Rex	42.2	27	....	....	....	53	2 CW 2-R	
			Prospect	32.1	28	....	....	....	48	1 Feed	Pl.
			Titan	49.6	29	....	....	....	49	3 CW 6-R	
			Plush	53	25	....	....	....	49	3 CW 6-R	
			Newal	60.8	23	....	....	....	51	3 CW 6-R	
			Compana ..	44.1	21	....	....	....	53	2 CW 6-R	

Necessary difference—7.35 bus.

Tests Discarded on Account of Severe Damage by Drought, Hall, Pests or Other Causes
2B 13 5 Eric J. Hunter, Sutherland
2B 13 9 Alphonse Greuel, Bruno

WHEAT POOL DISTRICT 14

ANDREW MURRISON, LINTLAW

4A	14	1	Rex	56.2	30	110	10	3	51	1 Feed	Stn. M.
			Prospect	42.8	30	107	10	3	46	1 Feed	W. Pl.
			Titan	63	24	102	8.8	2	46.5	1 Feed	W. Pl.
			Plush	88.4	30	110	10	3	47.5	1 Feed	W. B.p.
			Newal	85.1	30	110	10	3	49.5	3 CW 6-R	S.b.p.
			Compana ..	59.6	30	110	10	3	49.5	1 Feed	I.

Necessary difference—11.3 bus.

ROBERT WYNNE JONES, SPALDING

3B	14	3	Rex	69.4	30	87	10	1	53	2 CW 2-R	
			Prospect	65.4	32	85	5.5	1.8	50	3 CW 6-R	
			Titan	79.1	31	86	10	1	51	3 CW 6-R	
			Plush	90.4	32	85	5	2	52	3 CW 6-R	
			Newal	89.6	31	84	2	3	50	3 CW 6-R	
			Compana ..	68.9	24	87	5	2	52	2 CW 2-R	

Necessary difference—6.37 bus.

ERNEST W. SIGFRID, NORA

3B	14	4	Rex	54.5	41	94	10	1	50.5	1 Feed	W.
			Prospect	39.4	41	92	10	1	45	2 Feed	B.w.
			Titan	60	34	93	10	1	46.5	2 Feed	B.w.
			Plush	77.8	40	97	9.5	2	46.5	2 Feed	B.w.
			Newal	73.6	36	97	9	2	48.5	1 Feed	W.
			Compana ..	52	31	95	10	2	50	1 Feed	W.

Necessary difference—9.37 bus.

RALPH ALVIN SCHLECHTE, WHITTOME

2D	14	8	Rex	31.6	34	95	8.8	1.8	52	1 Feed	W. M.
			Prospect	18.5	36	92	8.8	1.2	48	1 Feed	W. Sl.e.
			Titan	41.1	33	92	8.2	1	47	1 Feed	W. Sl.e.
			Plush	47.2	34	97	7.2	1.8	50	3 CW 6-R	W. Pl.
			Newal	48	33	95	8	2	50.5	3 CW 6-R	Stn. B.p.
			Compana ..	40.9	26	92	5.5	1.2	52.5	1 Feed	W. Pl.

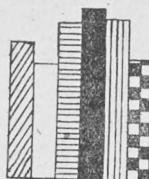
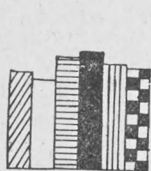
Necessary difference—8.42 bus.

ARTHUR EDWIN CLAPSON, RIDGEDALE

4A	14	9	Rex	57.3	45	....	10	1	55	1 Feed	M.
			Prospect	54.7	43	....	10	1	51	3 CW 6-R	B.p.
			Titan	70.5	40	....	10	1	52	3 CW 6-R	
			Plush	81.5	44	....	10	1	52	3 CW 6-R	
			Newal	74.1	46	....	10	1	52	3 CW 6-R	
			Compana ..	51.7	36	....	10	1	52	1 Feed	B.p.

Necessary difference—5.95 bus.

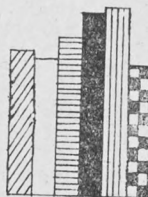
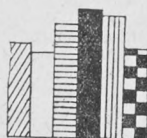
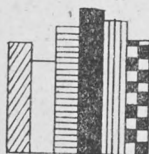
Histograms Showing Grain Yield in Bushels Per Acre For Barley Only



ZONES 1A.

1B, 2D & 2F.

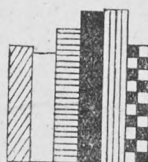
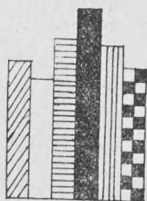
2A & 2E.



ZONES 2B.

3A.

3B.



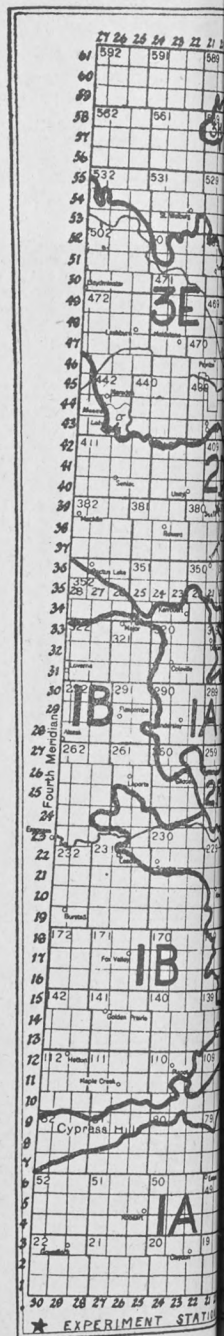
ZONES 3C.

3D, 3F, 4A & 4B.

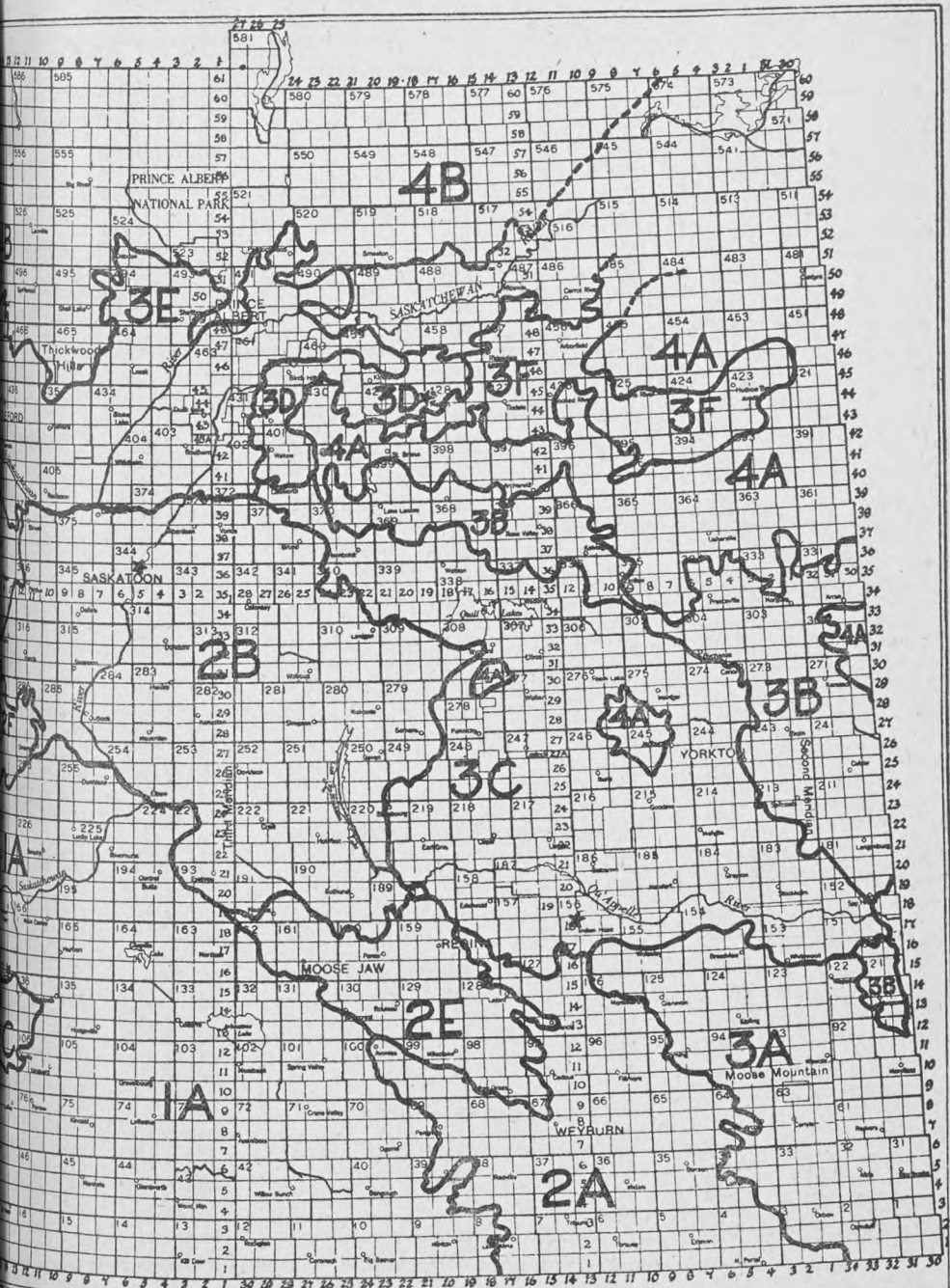
3E.

REX PROSPECT TITAN

PLUSH NEWAL COMPANA



Cereal Variety Zones of Saskatchewan



WHEAT POOL DISTRICT 15

Cereal Variety Zone	Sub-Dist.	Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
ALBERT ENGLAND, JORDAN RIVER											
3F	14	10	Rex	45.2	36	....	....	1	53	2 CW 2-R	
			Prospect	35.4	36	....	....	1	51	1 Feed	Pl.
			Titan	50.3	32	....	....	1.2	49	1 Feed	Pl.
			Plush	63.2	37	....	....	1.5	50	1 Feed	Pl.
			Newal	60.6	36	....	....	2	51	3 CW 6-R	
			Compana ..	40.3	28	....	....	1	52	2 CW 2-R	
Necessary difference—7.42 bus.											
JOYCE MAY TANNER, CODETTE											
4A	14	11	Rex	51	35	95	8.8	1.2	53	2 CW 2-R	Sl.e.
			Prospect	43.2	23	95	7.8	1.8	48	3 CW 6-R	Sl.e. W.
			Titan	51.1	24	95	9.2	1.2	49	3 CW 6-R	W.
			Plush	60.1	26	95	6	1	49.5	3 CW 6-R	W.
			Newal	56.2	23	95	7.2	3	50	3 CW 6-R	W.
			Compana ..	47.6	18	96	6	2.5	51	2 CW 2-R	W.
Necessary difference—5.72 bus.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
3C	14	2	Milton Bernard Weigel, Quill Lake								
3F	14	6	Cecil James Gough, Weekes								
JOSEPH BLANCHARD, DUCK LAKE											
3E	15	3	Rex	15.18	30	102	....	....	50	1 Feed	B.w.
			Prospect	10.66	29	104	....	....	46	2 Feed	E.
			Titan	14.89	30	102	....	....	47	2 Feed	B.w.
			Plush	12.2	28	105	....	....	47	1 Feed	
			Newal	13.62	31	105	....	....	49	1 Feed	
			Compana ..	16.95	32	101	....	....	51	1 Feed	W.
No significant grain yield difference between varieties.											
SHELDON I. FRIESEN, ROSTHERN											
3E	15	4	Rex	43.4	38	95	9.8	2.2	54	2 CW 2-R	
			Prospect	30	36	83	9.8	2.8	52	1 Feed	Pl.
			Titan	39.5	32	83	9.8	2.8	53	1 Feed	Pl.
			Plush	58	39	95	9.8	2.5	53	1 Feed	Pl.
			Newal	38.3	36	84	9.5	3	55	3 CW 6-R	
			Compana ..	54.0	25	85	8.5	3	54	2 CW 2-R	
Necessary difference—4.67 bus.											
TOM CHURCHILL BOND, LEASK											
3E	15	5	Rex	55	....	....	....	....	51	1 Feed	Stn. Pl.
			Prospect	51.9	....	....	....	....	48.5	1 Feed	Pl.
			Titan	65.3	....	....	....	....	49	1 Feed	Stn.
			Plush	77	....	....	....	....	50	1 Feed	Stn. Pl.
			Newal	80.6	....	....	....	....	50	1 Feed	Stn. Pl.
			Compana ..	50.0	....	....	....	....	50.5	1 Feed	G. Pl.
Necessary difference—9.07 bus.											
HERBY THOMAS MAYO, SHELL LAKE											
4B	15	6	Rex	27.2	46	107	9	1.2	44	2 Feed	L.w. F.
			Prospect	22.3	39	107	7	1	43	2 Feed	L.w. F.
			Titan	36.4	35	105	8.2	2	43	2 Feed	L.w. F.
			Plush	30.5	41.5	107	7.5	1	41	3 Feed	L.w. F.
			Newal	34.4	41	105	6	2	40	3 Feed	L.w. F.
			Compana ..	28.3	24	107	6	2.8	45	2 Feed	L.w. F.
Necessary difference—4.77 bus.											
JAMES HIRAM VAN EATON, SHELLBROOK											
3E	15	8	Rex	36	....	98	....	....	49	1 Feed	F. M.
			Prospect	29.2	....	98	....	....	46	1 Feed	Pl.
			Titan	42.4	....	98	....	....	46	1 Feed	F. W.
			Plush	37.6	....	98	....	....	43	2 Feed	W. F.
			Newal	39.9	....	99	....	....	43	2 Feed	W. F.
			Compana ..	39.6	....	99	....	....	49	1 Feed	G. F.
Necessary difference—5.32 bus.											
DAVID MCKEAND, WHITE STAR											
3E	15	9	Rex	38.6	....	....	....	....	50	1 Feed	M. F.
			Prospect	35	....	....	....	....	46	1 Feed	Pl.
			Titan	43	....	....	....	....	46	1 Feed	Pl.
			Plush	45.5	....	....	....	....	46	1 Feed	Pl.
			Newal	58.9	....	....	....	....	45	2 Feed	L.w. F.
			Compana ..	43.5	....	....	....	....	50	1 Feed	F.
Necessary difference—9.57 bus.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
3E	15	7	Irvin William Jung, Mont Nebo								
4B	15	11	Arnold Clarence Scott, Garrick								

WHEAT POOL DISTRICT 16

Cereal Variety Zone	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in inches	Days seed-ing to ripening	Straw strength	Neck strength	Lbs. per meas-ured bus.	Com-mercial grades	Grading remarks
WILLIAM ERNEST SCHMIDT, RUDELL											
3E	16	1	Rex	55.2	....	....	....	....	51.5	1 Feed	M. Pl.
			Prospect	46.2	....	....	....	....	50	1 Feed	Pl. B.p.
			Titan	60.4	....	....	....	....	49	1 Feed	Pl. M.
			Plush	68.4	....	....	....	....	48	1 Feed	Pl. W.
			Newal	61.2	....	....	....	....	48.5	1 Feed	Pl. W.
			Compana ..	44.6	....	....	....	....	49	1 Feed	I. B.p.
Necessary difference—10.12 bus.											
THOMAS KEELINGE SIMMONDS, SPEERS											
3E	16	2	Rex	40	30	115	9	1.8	49	1 Feed	M.
			Prospect	46.2	34	112	8	1	42	3 Feed	L.w.
			Titan	44.6	31	120	8.5	1.8	46	3 CW 6-R	
			Plush	46.3	34	118	9	1	46	3 CW 6-R	
			Newal	50.6	32	114	7.2	2	46	3 CW 6-R	
			Compana ..	36.3	28	117	8.5	1	49	2 CW 2-R	
Necessary difference—3.82 bus.											
ANDREW DOUGLAS CHRISTIE, NORTH BATTLEFORD											
3E	16	3	Rex	29.5	32	89	9.5	1.2	56	1 Feed	M.
			Prospect	28.1	26	87	10	1	50	3 CW 6-R	
			Titan	32.9	24	85	9.8	1	52	3 CW 6-R	
			Plush	36.9	31	88	9.8	1.5	53	3 CW 6-R	
			Newal	37.8	30	88	9.8	3	53	3 CW 6-R	
			Compana ..	39	20	85	10	1	54	2 CW 2-R	
Necessary difference—3.27 bus.											
KENNETH WILLIAM WESSON, MAIDSTONE											
3E	16	5	Rex	39.4	37	90	....	....	53	1 Feed	M. B.p.
			Prospect	50	36	88	....	....	49.5	1 Feed	M. Pl.
			Titan	45.6	34	87	....	....	50.5	1 Feed	Stn. Pl.
			Plush	54.2	39	91	....	....	49.5	1 Feed	W. Pl.
			Newal	61.7	37	89	....	....	50.5	1 Feed	W. Pl.
			Compana ..	41.8	27	93	....	....	52	1 Feed	Stn. B.p.
No significant grain yield difference between varieties.											
TED CONLON, LLOYDMINSTER											
3E	16	6	Rex	41.7	....	....	....	....	53	2 CW 2-R	B.p.
			Prospect	34.7	....	....	....	....	48	3 CW 6-R	B.p.
			Titan	48	....	....	....	....	47	3 CW 6-R	
			Plush	57.4	....	....	....	....	47	3 CW 6-R	
			Newal	58.5	....	....	....	....	50	3 CW 6-R	
			Compana ..	29.6	....	....	....	....	52	2 CW 2-R	
Necessary difference—5.8 bus.											
EMIL AND LEO LARSON, ROBINHOOD											
3E	16	9	Rex	27.7	33	93	9	1.2	53	2 CW 2-R	
			Prospect	26.4	30	93	8.5	1.2	49	3 CW 6-R	Stn. B.p.
			Titan	32.3	27	93	8.2	1.5	49	3 CW 6-R	W. Pl.
			Plush	32.6	29	94	7.5	1.8	50	3 CW 6-R	W.
			Newal	30.9	31	94	7.5	3	51	3 CW 6-R	I.
			Compana ..	30	24	96	7	1.2	51	2 CW 2-R	S.b.p.
Necessary difference—4.35 bus.											
WALTER ILNISKY, RANGER											
4B	16	10	Rex	45.1	42	....	....	....	52	1 Feed	B.p.
			Prospect	58.1	40	....	....	....	49	3 CW 6-R	
			Titan	52.3	34	....	....	....	52	3 CW 6-R	
			Plush	63.1	40	....	....	....	48	1 Feed	G. B.p.
			Newal	75.9	40	....	....	....	51	3 CW 6-R	
			Compana ..	31.4	36	....	....	....	48	1 Feed	F. B.p.
Necessary difference—20.5 bus.											
LYDIA ROSENBERGER, GOODSOL											
4B	16	11	Rex	43.3	34	94	9	1.2	51	2 CW 2-R	Stn.
			Prospect	54.6	34	93	8.2	1.2	47	3 CW 6-R	
			Titan	60.4	33	94	7.5	1	49	3 CW 6-R	
			Plush	58.6	36	93	8	1	47	3 CW 6-R	
			Newal	76.2	33	94	7.8	1.2	49	3 CW 6-R	
			Compana ..	42	33	94	7.8	1.2	48	1 Feed	L.w.
Necessary difference—8.12 bus.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
4B	16	4	George Jullion, St. Hippolyte								

WHEAT TESTS

The number of wheat tests were smaller than the barley, so a more extensive grouping of cereal variety zones was employed.

VARIETIES USED IN TESTS, THEIR ORIGINS AND DISEASE REACTIONS

Thatcher.—An awnless variety, with smooth white glumes. It is the result of a cross made at the Minnesota Agricultural Experiment Station, St. Paul, between (Kanred x Marquis) and (Marquis x Iumillo). Iumillo is a highly rust resistant durum wheat from Southern Russia. Kanred was developed from a selection made from Crimean and was found to have some rust resistance. After rigid selection two of the best hybrids chosen from the first crosses were crossed and Thatcher originated. Thatcher is highly resistant to stem rust and loose smut, but is susceptible to leaf rust and covered smut.

Apex.—Is awnless with smooth white glumes. It originated at the University of Saskatchewan, Saskatoon from the triple cross (H-44-24 x Double Cross) x Marquis. H-44-24 is very highly rust resistant and was developed at the South Dakota Experiment Station from a cross between Marquis and Yaroslav, a highly rust resistant wheat. Double Cross, a highly rust resistant wheat, is a sister of Thatcher. The selection taken from the crossing of H-44-24 and Double Cross was then crossed with Marquis, giving the variety Apex.

Apex is highly resistant to stem rust, has some resistance to leaf rust and covered smut, and is moderately resistant to loose smut.

Regent.—Is awnless with smooth white glumes. It was developed at the Dominion Rust Research Laboratory, Winnipeg, by crossing H-44-24 x Reward. The new strain, 975.6, was used in the tests. Regent is highly resistant to stem and leaf rust, moderately resistant to covered smut and moderately susceptible to loose smut.

Mida.—Is a bearded bread wheat with large-sized kernels. It was bred at the North Dakota Experiment Station and is the product of a three way cross. Ceres was crossed with a Hope x Florence derivative. A selected product of this cross was then crossed with R.L. 625, a wheat developed by the Rust Research Laboratory, Winnipeg. Mida is highly resistant to both stem and leaf rust, has a high degree of resistance to covered smut, but less resistance to loose smut.

Carleton.—A durum wheat with brownish glumes and fairly long awns. The kernels are large and amber in color. Carleton is the result of a program for improving durum wheat conducted co-operatively by the North Dakota Agricultural Experiment Station and the United States Department of Agriculture. It is a highly rust resistant selection from the cross Vernal emmer x Mindum durum. The first hybrids lacked macaroni quality and kernel shape, so they were back-crossed twice with Mindum.

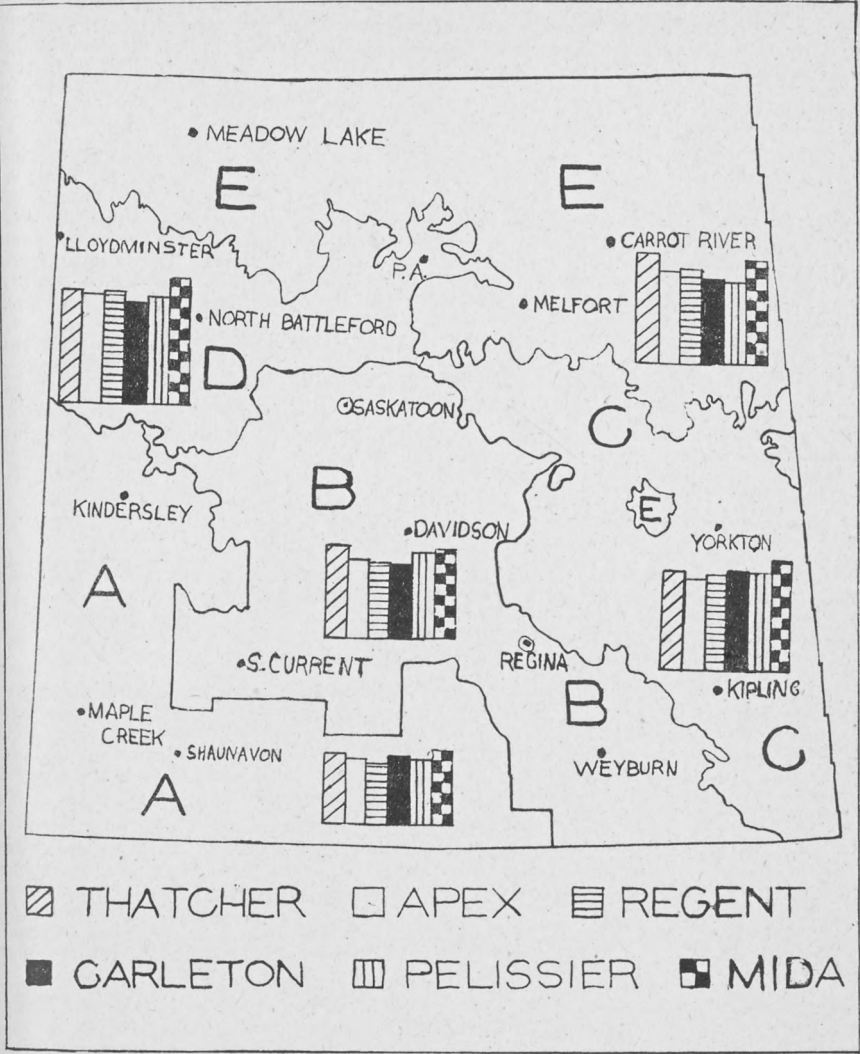
Pelissier.—A durum wheat with white glumes, long black awns and large amber kernels. It was introduced into the United States from Algeria by the U.S. Department of Agriculture in 1900, and was later introduced into Canada. Pelissier is moderately resistant to stem rust and susceptible to covered smut.

RAINFALL

TABLE No. 19.—AVERAGE TOTAL PRECIPITATION

Areas	No. of Stations Reporting	May	June	July	August
A	10	1.99	2.57	1.98	2.38
B	23	3.22	3.22	1.77	1.96
C	13	2.10	4.44	1.96	3.26
D	10	3.01	3.07	4.35	3.98
E	6	2.88	2.63	3.80	2.63

Histogram Showing Grain Yield in Bushels per Acre for Wheat



GRAIN YIELD

TABLE No. 20.—AVERAGE YIELD IN BUSHELS PER ACRE

Areas	No. of Satisfactory Tests	Thatcher	Apex	Regent	Carleton	Pellissier	Mida	Necessary Difference in bus.
A	11	20.1	18.1	17.3	18.7	17.9	20.8	3.65
B	16	25.9	21.9	20.6	20.5	24.2	24.6	2.42
C	15	27.8	25.4	26.8	27.4	27.3	31.1	2.85
D	8	31.7	30.2	31.6	28.2	30.0	35.2	3.65
E	7	30.9	25.8	26.4	23.8	22.7	29.6	3.68

Table No. 20.—In three out of the five areas Mida outyielded the other varieties in bushels per acre, but in only Area "B" did it outyield all the varieties in the area significantly. In each of the remaining two areas Thatcher yielded 1.3 bus. per acre more than Mida, but the differences were not significant. Carleton, Pelissier and Regent varied in comparative yields. Apex was fourth in bushels per acre in four areas and in the fifth was last.

DAYS FROM SOWING TO RIPENING

TABLE No. 21.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING

Areas	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
A	93.1	94.6	93.0	101.2	101.6	93.8
B	98.7	100.3	98.6	107.0	107.0	101.5
C	106.4	107.1	106.9	114.2	113.2	109.3
D	112.5	113.3	112.3	114.5	115.5	114.6
E	105.6	106.6	104.0	113.4	112.8	103.2

Table No. 21.—Shows how the trend from area to area in the length of time taken by each variety is the same. The durum varieties, Carleton and Pelissier, appeared to be the latest to ripen in most cases.

HEIGHT OF PLANTS

TABLE No. 22.—AVERAGE HEIGHT OF PLANT IN INCHES

Areas	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
A	27.4	28.6	27.3	31.1	32.8	28.5
B	34.2	33.9	33.4	39.6	38.0	36.7
C	35.2	36.4	34.6	46.1	41.5	38.0
D	37.2	38.0	38.5	46.0	49.6	43.5
E	36.3	37.7	36.0	53.0	47.6	43.8

The average heights of the plants can easily be read from Table No. 22. The durum varieties grew to greater heights than the bread varieties.

STRAW STRENGTH

TABLE No. 23.—COMPARISON OF STRAW STRENGTH

Areas	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
A	7.8	8.2	7.6	7.8	8.6	7.7
B	8.1	7.8	8.7	8.6	8.2	8.4
C	9.2	7.7	8.3	7.9	7.3	8.4
D	8.4	8.5	8.7	7.0	7.3	8.8
E	9.2	9.2	8.9	8.1	8.1	9.4

In the above table no one variety showed extreme superiority or inferiority to the other varieties. There appeared to be a variation in their comparative differences.

WEIGHT PER MEASURED BUSHEL

TABLE No. 24.—BUSHEL WEIGHT IN POUNDS

Areas	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
A	61.0	61.7	61.3	64.7	63.0	63.1
B	62.0	62.5	62.0	65.0	63.1	63.4
C	61.9	62.3	62.3	64.0	62.0	63.2
D	61.4	61.0	61.7	60.0	57.1	61.3
E	61.2	60.5	61.8	63.1	59.3	61.6

Table No. 24.—Shows the average bushel weight taken from cleaned samples of each variety. In four out of the five areas, Carleton outweighed the other varieties and in the same four areas Mida came next in average bushel weight. This places Mida as the heaviest weighing bread wheat variety in these four areas. In the fifth area Thatcher outweighed Mida.

PROTEIN CONTENT

TABLE No. 24A.—PROTEIN CONTENT SUMMARIZED BY AREAS

Areas	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
A	16.20	14.74	15.05	14.58	13.83	14.49
B	14.61	14.72	15.06	14.48	14.41	14.41
C	14.46	14.35	14.57	14.00	13.88	14.43
D	13.44	13.60	13.86	13.44	13.23	13.90
E	12.91	12.67	13.27	12.14	12.51	12.96

The above table is the summary of the results of the protein determinations made by Dr. R. K. Larmour, Professor of Chemistry, at the University of Saskatchewan, Saskatoon, on the samples of wheat from the Variety Tests. The protein values were calculated to a 14% moisture basis, rather than to the 13.5% basis which has been used previously on such samples. This change is in line with the decision of the American Association of Cereal Chemists to report flour analysis on a 14% basis.

In comparison of the four bread varieties, Regent appeared to have slightly the highest protein content. In three of the five areas Regent excelled in protein content and in the remaining two averaged second. Thatcher was definitely superior in Area "A" and Mida was slightly the best in Area "D", exceeding the second highest by a very narrow margin. In only Area "E" did Pelissier average higher than Carleton.

With the exceptions of Regent and Pelissier in Area "B" and Mida in Area "C", the individual varieties over the different areas showed a very distinct trend for the protein content to decrease as moisture conditions improved. Area "A" which was the driest, gave the higher protein results. Area "B" received more moisture and except in the cases of Regent and Pelissier the percentage of protein was less, as has been mentioned. The protein content in Area "C" was less than in Area "B", except in the case of Mida. Area "D" showed a further decrease and finally Area "E" which takes in the north and the northeast parts of the Province was the lowest.

In averaging the five areas together, Thatcher was very slightly superior to Regent. Apex was third and Mida was lowest of the bread wheats. All four varieties contained more than 14% protein and the variation between the highest and lowest was 0.41%. Carleton excelled Pelissier, yet both were lower than the bread wheats.

COMMERCIAL GRADES

TABLE No. 25.—PERCENTAGE OF COMMERCIAL GRADES OF BREAD VARIETIES

	1 Hd.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 4 Sp.	Fd.
Thatcher	7.0	35.0	19.2	17.9	5.2	5.2	5.2	1.8	3.5
Apex	15.8	29.8	26.2	7.1	5.2	8.8	1.8	1.8	3.5
Regent	7.0	35.0	19.2	17.8	7.0	7.0	5.2	..	1.8
Mida .....	..	21.0	29.8	24.8	3.5	10.5	5.2	..	5.2

Table No. 25.—Shows percentage in each grade of the hard spring bread varieties. Apex was superior in grading and Mida inferior.

TABLE No. 26.—PERCENTAGE OF COMMERCIAL GRADES OF DURUM VARIETIES

	1 C.W.	2 C.W.	3 C.W.	4 C.W.	5 C.W.	6 C.W.	Fd.
Carleton	49.0	21.0	10.7	10.5	3.5	1.8	3.5
Pelissier	33.2	17.5	23.1	5.2	8.8	5.2	7.0

It may be easily observed from Table No. 26 that Carleton was superior in grade to Pelissier.

SUMMARIZATION ACCORDING TO AREAS

AREA "A"

TABLE No. 27.—SUMMARIZED RESULTS FOR AREA "A"

	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
Yield in bus. per acre	20.1	18.1	17.3	18.7	17.9	20.8
Days from sowing to ripening	93.1	94.6	93.0	101.2	101.6	93.8
Height of plants in inches	27.4	28.6	27.3	31.1	32.8	28.5
Straw strength	7.8	8.2	7.6	7.8	8.6	7.7
Bus. weight in lbs.	61.0	61.7	61.3	64.7	63.0	63.1
Commercial grades in percentage:						
1 Hard	8.3	16.5	8.4	....	....	....
1 Nor. and 1 C.W.	50.0	41.6	50.0	75.0	41.6	50.0
2 Nor. and 2 C.W.	8.4	25.0	16.6	16.5	41.6	41.6
3 Nor. and 3 C.W.	16.5	....	8.4	....	8.4	....
4 Nor. and 4 C.W.	8.4	8.4	16.6	8.5	....	....
No. 5 and 5 C.W. ....	....	....	....	....	8.4	8.4
Feed .....	....	8.5	....	....	....	....
4 Special	8.4	....	....	....	....	....

Necessary difference—3.65 bus.

Table No. 27.—**Grain Yield.**—The difference between the highest yielder, Mida, and Regent, the lowest, was 3.5 bus. per acre. Since the necessary difference is 3.65 bus. no variety was significant in yield over another variety. **Earliness.**—Regent was the earliest and the durums last, Pelissier maturing 0.4 days later than Carleton. **Height.**—The durums grew to be the tallest, while Regent was the shortest in growth. **Straw Strength.**—Pelissier excelled and Regent was the weakest by a small margin. **Weight.**—Carleton was the heaviest of all and Mida was the heaviest of the bread varieties. **Grades.**—Apex excelled in having the most samples in No. 1 Hard, yet it was the only variety having samples in the feed grade. **Smut.**—Mida and Pelissier were the only varieties showing susceptibility to loose smut, Mida being the most susceptible. Apex was the only variety free of covered smut. **Rust.**—There was very little stem rust infection but Mida, Regent and Thatcher showed the most. Thatcher, Apex and Regent were the least resistant to leaf rust. **Shattering.**—The percentages of shattering reported were Regent 4.8, Mida and Thatcher 4.6, Pelissier 3.8, Apex 3.5 and Carleton 3.4. **Summary of Outstanding Characteristics.**—No variety outyielded another great enough to equal the significant difference of 3.65 bus. Carleton excelled in bushel weight and Apex graded highest. The durums were longer in maturing and grew to greater height than the other wheats in the test.



Vernon Oehlerking, Gravelbourg, in his wheat test.

AREA "B"

TABLE No. 28.—SUMMARIZED RESULTS FOR AREA "B"

	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
Yield in bus. per acre	25.9	21.9	20.6	20.5	24.2	24.6
Days from sowing to ripening	98.7	100.3	98.6	107.0	107.0	101.5
Height of plants in inches	34.2	33.9	33.4	39.6	38.0	36.7
Straw strength	8.1	7.8	8.7	8.6	8.2	8.4
Bus. weight in lbs.	62.0	62.5	62.0	65.0	63.1	63.4
Commercial grades in percentage:						
1 Hard	6.25	31.25	12.5	....	....	....
1 Nor. and 1 C.W.	50.0	31.25	50.0	75.0	62.5	31.25
2 Nor. and 2 C.W.	25.0	37.5	12.5	12.5	6.25	50.0
3 Nor. and 3 C.W.	12.5	....	25.0	12.5	25.0	18.75
4 Nor. and 4 C.W.	6.25	....	....	....	....	....
No. 5 and 5 C.W. ....	....	....	....	....	6.25	....

Necessary difference—2.42 bus.

Table No. 28.—**Grain Yield.**—Thatcher exceeded Mida and Pelissier by 1.3 bus. and 1.7 bus., respectively. This difference did not equal the necessary differences, so Thatcher was not significantly higher than Mida and Pelissier. However, Thatcher and Mida were significant in yield over Apex, Regent and Carleton. **Earliness.**—Carleton and Pelissier tied in taking the longest time to mature. Regent was one-tenth of a day earlier than Thatcher.

Height.—Carleton reached the tallest height with Pelissier next. Mida was definitely higher than any of the remaining three. **Straw Strength.**—Regent had the strongest straw and Apex the weakest. **Weight.**—Carleton exceeded the others. Mida was 0.3 lbs. heavier than Pelissier and 1.4 lbs. heavier than Regent and Thatcher which tied. **Grades.**—Apex excelled in grades as all samples were in the top three grades. Mida was the only bread variety not making No. 1 Hard. **Smut.**—Mida was the sole loser to loose smut. All varieties exhibited only a trace of covered smut. **Rust.**—No variety escaped either stem or leaf rust. However, none of the averages indicated any more than a very slight infection. **Shattering.**—The percentages of shattering were Thatcher 3.4, Mida 3.3, Apex 2.3, Regent 2.2, Pelissier 1.0 and Carleton 0.8. **Summary of Outstanding Characteristics.**—While Thatcher yielded the most bushels per acre, it only was significant in yield over Apex, Regent and Carleton. It equalled Regent in having the lightest bushel weight. Carleton excelled in weight, and Mida was the highest in the bread wheat, but was low in grade. This was due to immaturity and green kernels.



The wheat test of Donald Smith, Boharm.

AREA "C"

TABLE No. 29.—SUMMARIZED RESULTS FOR AREA "C"

	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
Yield in bus. per acre	27.8	25.4	26.8	27.4	27.3	31.1
Days from sowing to ripening	106.4	107.1	106.9	114.2	113.2	109.3
Height of plants in inches	35.2	36.4	34.6	46.1	41.5	38.0
Straw strength	9.2	7.7	8.3	7.9	7.3	8.4
Bus. weight in lbs.	61.9	62.3	62.3	64.0	62.0	63.2
Commercial grades in percentage:						
1 Hard	13.3	13.3	6.7	....	....	....
1 Nor. and 1 C.W.	13.3	20.0	33.3	40.0	26.6	6.7
2 Nor. and 2 C.W.	40.0	40.0	26.6	33.4	26.7	26.7
3 Nor. and 3 C.W.	20.0	13.3	20.0	13.3	26.7	46.6
4 Nor. and 4 C.W.	6.7	6.7	6.7	13.3	13.3	6.7
No. 5 and 5 C.W.	6.7	6.7	6.7	....	6.7	13.3

Necessary difference—2.85 bus.

Table No. 29—**Grain Yield.**—Mida was the only significant yielder, outyielding all other varieties with greater differences than the necessary difference for this zone of 2.85 bus. **Earliness.**—The durum wheats were the latest in maturing. Carleton being the later of the two. Thatcher was the earliest. **Height.**—Regent was the shortest in height and Carleton was the tallest, exceeding it by 11.5 inches. **Straw Strength.**—Thatcher excelled and Pelissier showed the least straw strength. **Weight.**—Carleton was heaviest. Mida was slightly less with Apex and Regent tied in being third heaviest.

Pelissier outweighed Thatcher by one-tenth of a pound. **Grades.**—Mida, although heaviest of the bread wheats, was the only one of the four not to have some of its samples in the No. 1 Hard grade. This was due to immaturity. Carleton graded higher than Pelissier. **Smut.**—Mida and Apex were the only varieties showing susceptibility to loose and covered smut. Mida was very definitely susceptible to loose smut. **Rust.**—The order of susceptibility was the same for both leaf and stem rust. In order of decreasing infection the varieties were Pelissier, Apex, Mida, Regent, Thatcher and Carleton. **Shattering.**—The percentages of shattering, reported were Apex and Regent 1.9 per cent, Carleton 1.3 per cent. Thatcher and Mida 1.2 per cent. and Pelissier 0.9 per cent. **Summary of Outstanding Characteristics.**—Mida was the only variety to yield significantly higher than the others. It also weighed the heaviest of the bread wheats, but graded the poorest of the four wheats. Mida was very susceptible to loose smut. Carleton outweighed all others and Thatcher was the lightest in weight. Thatcher had the greatest straw strength and was the earliest. Apex was susceptible to both smuts.

AREA "D"

TABLE No. 30.—SUMMARIZED RESULTS FOR AREA "D"

	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
Yield in bus. per acre	31.7	30.2	31.6	28.2	30.0	35.2
Days from sowing to ripening	112.5	113.3	112.3	114.5	115.5	114.6
Height of plants in inches	37.2	38.0	38.5	46.0	49.6	43.5
Straw strength	8.4	8.5	8.7	7.0	7.3	8.8
Bus. weight in lbs.	61.4	61.0	61.7	60.0	57.1	61.3
Commercial grades in percentage:						
1 Nor. and 1 C.W.	33.4	33.4	22.2	11.1	....	....
2 Nor. and 2 C.W.	11.1	11.1	33.4	22.3	11.1	....
3 Nor. and 3 C.W.	22.2	11.1	....	11.1	22.2	44.5
4 Nor. and 4 C.W. ....	....	11.1	11.1	11.1	....	....
No. 5 and 5 C.W. ....	....	11.1	....	22.2	22.2	22.2
No. 6 and 6 C.W.	22.2	11.1	22.2	....	22.2	11.1
Feed	11.1	11.1	11.1	22.2	22.2	22.2

Necessary difference—3.65 bus.

Table No. 30—**Grain Yield.**—Mida yielded significantly higher than Apex, Pelissier and Carleton. It exceeded Thatcher by 3.5 bus. per acre and Regent by 3.6 bus. Neither of these differences equalled or exceeded the necessary difference of 3.65 bus. **Earliness.**—The differences in length of time to mature between the durums and bread wheats were much less than in the other areas. Carleton was 0.1 days earlier than Mida. **Height.**—Pelissier was the highest and then Carleton. Thatcher was the shortest, with Apex and Regent a little taller. **Straw Strength.**—Carleton's average indicated the weakest straw, while Mida excelled all varieties. **Weight.**—The durum wheats were lower in weight than the other varieties. Regent was the heaviest, weighing 61.7 lbs. **Grades.**—Thatcher and Apex had equal numbers of samples in No. 1 grade. Mida's highest grade was No. 3, being lower on account of immature kernels. Carleton graded better than Pelissier. **Smut.**—Regent was the only variety escaping loose smut. Mida and Carleton were the most susceptible and were the only varieties showing susceptibility to covered smut. **Rust.**—All varieties were slightly infected by both leaf and stem rust. Pelissier had the highest per cent. of leaf rust. **Shattering.**—The amount of shattering was very small in each variety. **Summary of Outstanding Characteristics.**—Mida yielded the most bushels per acre and was significantly higher than Apex, Pelissier or Carleton. Mida graded low in comparison to the other bread wheats. Mida excelled in straw strength and was the most susceptible to smuts. Thatcher was shortest in growth, and had the heaviest bushel weight. Regent was first to mature, and showed resistance to smut. Pelissier was lightest in bushel weight.

AREA "E"

Table No. 31—**Grain Yield.**—Thatcher yielded significantly higher than all varieties, except Mida. Mida was significant in yield over Apex, Carleton and Pelissier. **Earliness.**—The durums were the latest to mature and Regent was the earliest. **Height.**—Regent was the shortest growing wheat and the durums the tallest with Carleton exceeding Pelissier. **Straw Strength.**—Mida

TABLE No. 31.—SUMMARIZED RESULTS FOR AREA "E"

	Thatcher	Apex	Regent	Carleton	Pelissier	Mida
Yield in bus. per acre	30.9	25.8	26.4	23.8	22.7	29.6
Days from sowing to ripening	105.6	106.6	104.0	113.4	112.8	108.2
Height of plants in inches	36.3	37.7	36.0	53.0	47.6	43.8
Straw strength	9.2	9.2	8.9	8.1	8.1	9.4
Bus. weight in lbs.	61.2	60.5	61.8	63.1	59.3	61.6
Commercial grades in percentage:						
1 Nor. and 1 C.W.	14.3	14.3	14.3	14.3	14.3	....
2 Nor. and 2 C.W. ....	....	....	14.3	14.3	....	14.3
3 Nor. and 3 C.W.	14.3	28.5	14.3	14.3	28.5	14.3
4 Nor. and 4 C.W.	14.3	....	....	14.3	14.3	14.3
No. 5 and 5 C.W.	28.5	42.9	28.5	28.5	....	14.3
No. 6 and 6 C.W.	14.3	....	28.6	14.3	14.3	28.5
Feed	14.3	14.3	....	....	28.6	14.3

Necessary difference—3.68 bus.

excelled, while Pelissier and Carleton tied in being the weakest. **Weight.**—Carleton was heaviest, weighing 63.1 lbs. and Pelissier was 0.7 lbs. lighter than standard. The remaining four were over 60 lbs. **Grades.**—Regent graded slightly higher than the other bread wheats, with Mida the lowest of the four. Carleton was superior to Pelissier. **Smut.**—All varieties sustained a small loss from covered smut. Thatcher, Carleton and Mida suffered from loose smut, the latter being the heaviest loser. **Rust.**—Carleton and Pelissier were equal and highest in stem rust infection. No leaf rust was reported on Apex and Carleton. **Shattering.**—No losses were reported. **Summary of Outstanding Characteristics.**—Thatcher was a significant yielder over four varieties and Mida over three. Mida had good bushel weight but graded comparatively poor. Carleton reached the greatest height for all areas. Its bushel weight was highest and Pelissier's the lowest.

GENERAL SUMMARY OF VARIETAL PERFORMANCES

Varieties are Listed in Order of Decreasing Yields

MIDA

Grain Yield.—Mida averaged 27.6 bus. per acre over all the tests. It exceeded the second highest yielder, Thatcher, by 0.9 bushels. In three of the five areas, Mida outyielded Thatcher in bushels per acre, but in only Area "C" was the difference significant. Area "C" was the only area in which the leading variety yielded significantly higher than the remaining varieties. **Earliness.**—Mida's average of 104.4 days to reach maturity was highest of the bread wheats, and was almost five days less than the durums. **Height.**—Again Mida averaged taller than any of the bread wheats, but less than the durums. **Straw Strength.**—Mida equalled Thatcher and Regent in having the greatest strength of straw. **Weight.**—Mida's bushel weight of 62.7 lbs. was only exceeded by Carleton which weighed one pound heavier. **Grades.**—While Mida exceeded the other bread varieties in bushel weight, it was lowest of the four in grading. None of its samples were placed in No. 1 Hard grade. Immaturity and green kernels were factors accounting for its poor showing in grading. **Smut.**—Mida was very definitely the most susceptible of all varieties to loose smut and ranked third most susceptible to covered smut. **Rust.**—For leaf rust infection, Mida averaged second highest and for stem rust it averaged third. **Shattering.**—Mida was reported as being the heaviest loser, having 0.1 per cent. more loss than Thatcher.

THATCHER

Grain Yield.—In two of the five areas Thatcher yielded the most bushels per acre, but in neither case was the difference significant. Thatcher's average yield for all the tests was 26.7 bus. per acre. **Earliness.**—The average number of days taken by Thatcher to reach maturity was 102.1 days, which was 0.2 day longer than the shortest time. Thatcher's comparative time in maturing was fairly consistent throughout the areas. **Height.**—Thatcher averaged 0.3 inches taller than the shortest variety, Regent. **Straw Strength.**—Thatcher's comparative strength in the five areas varied considerably.

Its average over the Province tied with that of Regent and Mida in having the strongest straw. **Weight.**—In bushel weight, Thatcher was the lowest of the bread varieties. Its average weight was 61.5 lbs., exceeding Pelissier the lowest, by one-tenth of a pound. **Grade.**—Thatcher and Regent were very close in grading. Both were excelled by Apex. The small difference between Thatcher and Regent gave an indication that Regent was slightly the better of the two. **Smut.**—Thatcher did not show any marked tendency to being susceptible to either smut. It ranked fifth lowest in both cases. **Rust.**—In comparison with the other varieties, Thatcher was less resistant to leaf than it was to stem rust. **Shattering.**—Thatcher's average was 2.3 per cent., ranking second highest.

PELISSIER

Grain Yield.—Pelissier's average over all tests was 24.4 bus. per acre, placing it third highest. Pelissier's ranking in the areas was not consistent with its Provincial placing. In only one area did it rank as high as third. **Earliness.**—The average number of days taken by Pelissier to mature was one-tenth less than that of the latest variety, Carleton. **Height.**—Carleton was the only variety exceeding Pelissier. The difference in height was 1.5 inches. **Straw Strength.**—Pelissier and Carleton averaged the same and were the weakest. **Weight.**—Pelissier's bushel weight of 61.4 lbs. made it lightest of the six averages. In Area "D" Pelissier was 2.9 lbs. lighter than the second lowest variety. **Grades.**—In all areas Pelissier was consistently lower than Carleton and consequently was likewise in this average. **Smut.**—Pelissier appeared the most susceptible to covered smut and third in susceptibility to loose smut. **Rust.**—In both leaf and stem rust, Pelissier had the greatest infection. **Shattering.**—Pelissier suffered the least loss of all varieties. Its average was 1.1 per cent.

REGENT

Grain Yield.—Regent averaged 23.8 bus. per acre over all tests, exceeding Apex by one-tenth of a bushel. In Area "A" Regent was lowest in yield and in Areas "D" and "E" it was third. **Earliness.**—Regent averaged 101.9 days in maturing, excelling the next earliest variety, Thatcher, by 0.2 day. In this characteristic Regent seems quite consistent throughout the areas. **Height.**—A height of 33.3 inches gave Regent the lowest average. Again Regent was consistent with the area averages, except in the case of Area "D". **Straw Strength.**—Regent tied Thatcher and Mida in having the greatest straw strength. **Weight.**—Regent's average weight was 61.8 lbs., equalling that of Apex, and being third heaviest. The two varieties outweighed Thatcher by 0.3 lb. **Grades.**—Regent was very slightly higher than Thatcher, thus giving it second place to the highest grading bread wheat, Apex. **Smut.**—Regent appeared completely resistant to loose smut and showed the smallest degree of all varieties in susceptibility to covered smut. **Rust.**—Regent appeared second lowest in susceptibility to leaf rust and third lowest to stem rust infection. **Shattering.**—The percentage loss sustained by Regent was 2.1 per cent. This average made it the third heaviest loser.

APEX

Grain Yield.—An average yield of 23.7 bus. per acre placed Apex fifth, being outyielded by Regent with a difference of one-tenth of a bushel. In four of the five areas Apex was fourth in yielding ability and in the fifth area ranked last. **Earliness.**—Apex's average time to mature was 103.3 days, bringing it fourth latest. In four of the five areas it was third and in the fifth was fourth. **Height.**—In two areas Apex ranked second shortest, in two areas, third, and in the fifth area it ranked fourth. Its average of 34.4 inches over all tests give it fourth place. **Straw Strength.**—Apex's comparative straw strength varied in the different areas. Its average showed it to be the weakest of the bread varieties. **Weight.**—Apex averaged 61.8 lbs. per bushel. With this weight it equalled Regent, placing it third heaviest of all the varieties and second in the bread wheats. **Grades.**—Apex excelled all varieties in grade. 15.8 per cent. of its samples were No. 1 Hard. **Smut.**—

Apex ranked fourth in susceptibility to both loose and covered smut. **Rust.**—For the amount of infection in both leaf and stem rust, Apex was third most susceptible. **Shattering.**—Apex's percentage of shattering was 2 per cent.

CARLETON

Grain Yield.—Averaging 23.4 bus. to the acre, Carleton was outyielded by the other varieties. In two areas it yielded third highest, in one area fifth highest and in the remaining two it was lowest. **Earliness.**—Exceeding Pelissier by one-tenth of a day Carleton took the longest average time for maturing. There was some variation in comparative maturity periods in the different areas. **Height.**—Carleton attained the greatest height of all varieties in Area "E". Its average over all tests was 41.9 inches tall, thus giving it the highest average. **Straw Strength.**—Carleton tied with Pelissier in having the lowest straw strength average. **Weight.**—Carleton excelled with a weight of 63.7 lbs. per bushel. In all areas it was heavier than Pelissier. **Grades.**—In the five areas Carleton was superior in grade to Pelissier. **Smut.**—Carleton averaged second most susceptible to both smuts. **Rust.**—Carleton appeared slightly the most resistant to leaf rust, and second most susceptible to stem rust. **Shattering.**—One and a half per cent. was the average loss sustained by Carleton.

TABLE No. 32

Individual Summarized Results of Wheat Tests

WHEAT POOL DISTRICT 1

Area	Dist.	Sub-Dist.	Varieties	Yield per acre	Plant height in ins.	Days seed- ing to ripening	Straw strength	Lbs. per measured bus.	Com- mercial grades	Grading remarks	Protein contents percentage
IRVINE CHARLES COLQUHOUN, GAINSBOROUGH											
C	1	1	Thatcher	21.9	38	110	9	61.5	2 Nor.	G. I.	14.0
			Apex	20.5	38	110	7.2	62.5	2 Nor.	G. I.	14.0
			Regent	26.0	37	110	8.5	62.5	2 Nor.	G. I.	14.1
			Carleton	30.3	57	125	6	64	2 CW AD	Sl. I.	12.9
			Pelissier	26.6	48	120	6	60	2 CW AD	Sh. I.	13.3
			Mida	29.3	40	116	7.2	64	3 Nor.	St. I.	13.9

Necessary difference—4.05 bus.

ARTHUR DENZIL ASPINAL, NORTH PORTAL

B	1	4	Thatcher	19.7	37	96	7	61	1 Nor.		
			Apex	18.1	39	97	6.8	62	1 Nor.		
			Regent	13.1	38	92	7	61.5	1 Nor.		
			Carleton	14.1	43	102	6.2	64.5	1 CW AD		
			Pelissier	14.5	45	102	6.5	61.5	2 CW AD		
			Mida	18.5	40	102	6.8	61.5	2 Nor.		

No significant grain yield difference between varieties.

LESLIE SCHINDEL, MACOUN

B	1	6	Thatcher	27.16	43	108	6	61	2 Nor.	Sl. I.	14.6
			Apex	25.17	43	109	7.8	62	1 Nor.		14.4
			Regent	21.06	44	105	7.8	61.5	2 Nor.	Sl. I.	14.9
			Carleton	27.27	51	118	7.8	66	1 CW AD		14.0
			Pelissier	29.10	48	116	7.8	65	1 CW AD		13.3
			Mida	26.4	47	112	7.5	63.5	2 Nor.	Sl. I.	14.4

Necessary difference—3.02 bus.

LESLIE RONALD HEWITT, WORDSWORTH

C	1	10	Thatcher	27.8	39	121	6.5	60.5	2 Nor.	I.	13.8
			Apex	30.7	40	122	7	60.5	2 Nor.	I.	13.9
			Regent	31.0	38	121	6.2	62.5	1 Nor.		14.7
			Carleton	39.4	52	127	5.8	63	2 CW AD	G.	12.6
			Pelissier	28.0	46	126	4.8	57	4 CW AD		14.1
			Mida	41.6	41	125	7.2	61.5	3 Nor.	G. I.	14.3

Necessary difference—5.27 bus.

WHEAT POOL DISTRICT 2

MARCEL JOSEPH DeCAP, FIR MOUNTAIN

A	2	6	Thatcher	46.2	....	....	....	62.5	1 Nor.		15.4
			Apex	44.7	....	....	....	63.5	1 Nor.		15.7
			Regent	39.5	....	....	....	62	1 Nor.		15.6
			Carleton	37.0	....	....	....	65	1 CW AD		15.0
			Pelissier	25.3	....	....	....	62	2 CW AD	Sh. G.	14.7
			Mida	57.5	....	....	....	63.5	1 Nor.		15.3

Necessary difference—6.5 bus.

EDGAR BUTTON, OGEMA

A	2	9	Thatcher	24.1	28	....	....	62	1 Nor.		14.9
			Apex .....	....	29	....	....	....	....		....
			Regent	19.4	30	....	....	63	1 Nor.		15.5
			Carleton	29.0	31	....	....	64.5	1 CW AD		14.3
			Pelissier	29.8	34	....	....	63.5	2 CW AD		14.8
			Mida	18.6	29	....	....	64	1 Nor.		14.0

Samples incomplete.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

A	2	7	Gordon Emerson Lethbridge, Melaval								
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ADDENDA

(1) Since this report was compiled advice has been received from the Board of Grain Commissioners that effective August 1, 1945 the Rex barley variety will not be considered eligible for the grades 1 and 2 C.W., two-row Barley.

(2) Advice has also been received that on and after August 1st, 1946 the Pelissier durum wheat variety will not be considered eligible for the grades of No's 1 C.W. and 2 C.W. amber durum.

(3) In grading the 6-row smooth-awn barley varieties an error has occurred in placing some of the samples in the 1 and 2 C.W. classes. None of the 6-row smooth-awn barley used in the test is eligible for a grade higher than 3 C.W. Wherever the grades of the 6-rowed smooth-awn varieties read 1 C.W. or 2 C.W., a grade of 3 C.W. should be substituted.

(4) MIDA WHEAT; COMPANA BARLEY; VICTORY, CRYSTAL, KOTO AND ARROW FLAX. None of the above mentioned

varieties is licensed in Canada, but all were included in the test in order that some comparative data could be obtained. The Commercial grades were placed on these varieties on the assumption that they were otherwise equal in quality to the standard varieties.

WHEAT POOL DISTRICT 3

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in ins.	Days seed- ing to ripening	Straw strength	Lbs. per measured bus.	Com- mercial grades	Grading remarks	Protein contents in percentage
IVOR C. BYE, ROBSART											
A	3	5	Thatcher	1.9	28	91	8	....	1 Nor.		14.1
			Apex	1.8	30	91	7	....	1 Nor.		13.1
			Regent	1.5	30	93	5	....	1 Nor.		14.1
			Carleton .....	.09	20	92	2	....			12.3
			Pelissier	1.6	30	92	5	....	1 CW AD		14.3
			Mida	1.8	24	92	3	....	1 Nor.		14.0

Necessary difference—0.5 bus.

EVERETT RAY KING, BEAVER VALLEY											
A	3	9	Thatcher	37	33	75	8.5	64	1 Nor.		14.6
			Apex	29.2	35	90	8	65	1 Nor.		14.7
			Regent	30	34	77	7.8	65	1 Nor.		15.5
			Carleton	30	48	108	7.5	65.5	2 CW AD		14.8
			Pelissier	32	47	108	7.2	62.5	3 CW AD	I.	14.0
			Mida	33.5	34	74	7.8	65.5	2 Nor.	I.	15.1

Necessary difference—5.65 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

A	3	4	Gordon Andrew Moe, Frontier								
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WHEAT POOL DISTRICT 4

WILFRED ALVIN SANDOU, MAPLE CREEK											
A	4	2	Thatcher	18.9	26	86	10	64.5	1 Feed	1 Hard	12.5
			Apex	17.1	26	85	9	65	1 Feed	1 Hard	13.0
			Regent	16.4	18	84	8.2	64.5	1 Feed	1 Hard	13.1
			Carleton	25.7	38	93	9	67.5	1 CW AD		12.0
			Pelissier	16.0	32	94	10	65.5	2 CW AD	St.	11.1
			Mida	25.9	26	85	8.8	65.5	1 Nor.	St.	13.3

Necessary difference—2.95 bus.

GLEN REDICK, MAPLE CREEK											
A	4	6	Thatcher	18.2	28	109	10	61.5	1 Nor.		15.9
			Apex	17.7	30	108	10	62.5	1 Nor.		15.5
			Regent	16.8	28	107	9	61.0	1 Nor.		15.7
			Carleton	9.5	33	113	9	64.5	1 CW AD		16.1
			Pelissier	21.4	36	114	9.2	63	1 CW AD		14.9
			Mida	18.8	31	109	8.2	63.5	1 Nor.		15.5

Necessary difference—2.24 bus.

JOHN PETER HUDEC, FOX VALLEY											
A	4	7	Thatcher	24.1	24	108	9	62.5	1 Nor.		14.6
			Apex	13.5	22	112	9.5	63.5	1 Nor.		14.2
			Regent	21.1	24	105	9.2	62.0	1 Nor.		14.6
			Carleton	18.9	33	112	9.2	66.5	1 CW AD		13.9
			Pelissier	23.1	28	110	9	65	1 CW AD		12.5
			Mida	25.8	27	106	9.2	65	1 Nor.		14.4

No significant grain yield difference between varieties.

DONALD ALFRED DALLARD, PRELATE											
A	4	8	Thatcher	4.1	....	....	....	61	1 Nor.		14.7
			Apex	3.8	....	....	....	62	1 Nor.		14.3
			Regent	3.3	....	....	....	61	1 Nor.		14.9
			Carleton	2.8	....	....	....	65.5	1 CW AD		13.6
			Pelissier	3.4	....	....	....	65.5	1 CW AD		12.2
			Mida	4.1	....	....	....	65	1 Nor.		14.2

No significant grain yield difference between varieties.

ALLAN CURRIE, VERLO											
A	4	10	Thatcher	7.5	27	98	8	55	4 Sp.	L.w.	18.5
			Apex	5.0	29	98	7.8	54.5	4 Sp.	L.w.	18.1
			Regent	6.3	26	99	7.5	56	4 Nor.		17.6
			Carleton	7.6	28	104	9	62	1 CW AD		18.9
			Pelissier	10.1	32	104	9.2	61.5	2 CW AD		17.7
			Mida	6.9	29	101	7.8	58.5	2 Nor.		16.6

Necessary difference—2.37 bus.

WHEAT POOL DISTRICT 5

Area	Sub-Dist.	Dist.	Varieties	Yield per acre	Plant height in ins.	Days seed-ing to ripening	Straw strength	Lbs. per measured bus.	Com-mercial grades	Grading remarks	Protein contents in percentage
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VERNON OEHLERKING, GRAVELBOURG

A	5	2	Thatcher	9.6	30	8	57	3 Nor.	L.w.	15.4
			Apex	8.4	32	6	59.5	2 Nor.	L.w.	15.3
			Regent	7.6	34	....	6	58	3 Nor.	G. I.	15.0
			Carleton	13.0	34	....	6	65	1 CW AD		15.5
			Pelissier	15.0	37	....	9	63	1 CW AD		15.0
			Mida	9.6	33	....	8	59	2 Nor.	L.w.	14.2

Necessary difference—3.20 bus.

RUDOLPH D. SCHOENROTH, HODGEVILLE

B	5	5	Thatcher	19.1	36	96	9.8	56.5	4 Nor.	L.w.	14.0
			Apex	15.4	36	100	9.5	59	2 Nor.		16.6
			Regent	20.2	36	96	10	57	3 Nor.		16.4
			Carleton	11.7	42	100	9.5	63.5	1 CW AD		17.1
			Pelissier	22.3	42	105	9	63	1 CW AD		17.3
			Mida	22.1	42	105	9.2	59	2 Nor.		14.8

Necessary difference—2.46 bus.

LIONEL ROBERT HERBERT, MORTLACH

B	5	7	Thatcher	23.9	44	96	9	57.5	3 Nor.		15.1
			Apex	23.3	35	96	10	59	2 Nor.		15.0
			Regent	24.0	36	96	10	59	3 Nor.		14.4
			Carleton	15.8	38	109	9.5	64.5	1 CW AD		15.5
			Pelissier	22.6	38	108	9.5	63.5	1 CW AD		13.9
			Mida	26.2	38	96	10	59.5	2 Nor.		12.9

Necessary difference—2.11 bus.

WALTER JOHN SANDERS, UREN

B	5	9	Thatcher	27.9	32	103	9	62	2 Nor.	Bl.	15.5
			Apex	21.6	32	105	7.8	61.5	2 Nor.	Bl.	14.9
			Regent	11.8	28	105	8.9	62	3 Nor.	G. I.	15.4
			Carleton	24.7	41	110	9.2	65.5	2 CW AD	G.	14.6
			Pelissier	19.3	36	108	8.2	61	3 CW AD	G. I.	14.7
			Mida	20.3	32	106	9	63.5	3 Nor.	G. I.	15.9

Necessary difference—3.78 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

B	5	4	Wesley Murray Verr, Waldeck								
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WHEAT POOL DISTRICT 6

THELMA LUCILE TERRY, WILCOX

B	6	3	Thatcher	27.3	36	90	5	62	2 Nor.	B.bl.	13.9
			Apex	24.1	37	90	7.2	62	2 Nor.	B.bl.	13.5
			Regent	22.0	35	90	8	62	1 Nor.		14.6
			Carleton	30.1	42	97.8	10	66	1 CW AD		13.5
			Pelissier	36.1	41	100	10	65	1 CW AD		12.0
			Mida	29.6	39	91	6	64	1 Nor.	Sl.i.	13.5

Necessary difference—1.62 bus.

LAWRENCE FUNKE, CLAYBANK

A	6	4	Thatcher	30	....	....	....	57.5	3 Nor.	L.w.	14.0
			Apex	31	....	....	....	58	2 Nor.		14.6
			Regent	30	....	....	....	58	2 Nor.		14.2
			Carleton	30	....	....	....	64	1 CW AD		14.1
			Pelissier	32	....	....	....	62	1 CW AD		13.1
			Mida	31	....	....	....	60.5	2 Nor.	Bl.	13.8

Badly hailed.

DONALD WILSON SMITH, BOHARM

B	6	5	Thatcher	26.0	32	100	8.8	64.5	1 Nor.		12.2
			Apex	21.6	32	101	7	64.5	1 Nor.	Sl.i.	11.6
			Regent	21.6	31	98	8.5	64.5	1 Nor.	Sl.i.	12.6
			Carleton	26.7	41	104	10	67	3 CW AD	St. G.	10.4
			Pelissier	30.1	36	104	9.5	65.5	3 CW AD	St. G.	10.4
			Mida	25.2	33	101	7.0	65	3 Nor.	St. I.	11.2

Necessary difference—2.20 bus.

Wheat Pool District 6—Continued

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in ins.	Days seed-ing to ripening	Straw strength	Lbs. per measured bus.	Com-mercial grades	Grading remarks	Protein contents in percentage
VERNON CARROL FOWKE, DRINKWATER											
B	6	6	Thatcher	13.4	30	110	7.5	64	1 Nor.	Sl.i.	13.9
			Apex	13.1	32	110	8.2	65	1 Hd.		13.8
			Regent	14.9	31	110	7.8	64.5	1 Nor.	Sl.i.	14.4
			Carleton	12.7	36	112	10	67	1 CW AD		13.4
			Pelissier	14.8	34	111	9.2	66	1 CW AD		13.0
			Mida	12.6	31	110	8	65	2 Nor.	I.	15.1
No significant grain yield difference between varieties.											

MICHAEL CAROL BLENDER, CRAVEN											
B	6	10	Thatcher	43	27	....	9.5	63	2 Nor.	I.	13.5
			Apex	38.1	27	....	7.0	63	2 Nor.	I.	14.2
			Regent	28.1	28	....	9.2	63	2 Nor.	I.	14.6
			Carleton	32.4	39	....	8.8	63.5	2 CW AD	G. I.	13.0
			Pelissier	17.2	35	....	8.2	55.5	5 CW AD	L.W.	14.2
			Mida	41.7	39	....	9.0	64	2 Nor.	I.	14.4
Necessary difference—4.26 bus.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C 6 8 Roland Joseph Graff, Lebret

WHEAT POOL DISTRICT 7

GRANT ROSS BATEMAN, RED JACKET											
C	7	2	Thatcher	31.1	37.5	....	....	60	2 Nor.	I.	13.1
			Apex	27.4	38	....	....	61.5	3 Nor.	I.	13.3
			Regent	34	40	....	....	61.5	3 Nor.	I.	13.4
			Carleton	48.1	54	....	....	64	1 CW AD	D.k.	11.8
			Pelissier	29.5	48	....	....	61.5	2 CW AD	I.	13.2
			Mida	43.6	38	....	....	63.5	3 Nor.	I.	13.4
Necessary difference—6.17 bus.											

RENA DRUSILLA NIXON, FILLMORE											
B	7	5	Thatcher	40.9	....	103	....	63.5	1 Nor.		13.4
			Apex	34.0	....	109	....	62.5	1 Nor.		14.1
			Regent	34.2	....	103	....	64	1 Hd.		14.7
			Carleton	35.1	....	109	....	66	1 CW AD		13.9
			Pelissier	37.7	....	109	....	61	3 CW AD	Sh. I.	13.9
			Mida	42.7	....	106	....	64.5	2 Nor.	I.	14.6
No significant grain yield difference between varieties.											

GORDON FRANCIS TULLOCH, BROADVIEW											
C	7	7	Thatcher	28.0	40	....	9.5	61.5	2 Nor.	I.	14.8
			Apex	18.3	49	....	6.5	60.5	2 Nor.	I.	14.9
			Regent	28.7	37	....	9.8	61	2 Nor.	I.	15.3
			Carleton	28.8	48	....	8.5	65	2 CW AD	G.	14.9
			Pelissier	34.7	49	....	7.5	61.5	3 CW AD	G. I.	15.4
			Mida	38.1	47	....	9.8	63.3	3 Nor.	G. I.	15.7
No significant grain yield difference between varieties.											

ROY CLINTON WILSON, BEAR CREEK											
C	7	8	Thatcher	33.1	41	93	9	63	1 Nor.		12.6
			Apex	27.0	40	96	7	63	1 Nor.		12.7
			Regent	29.5	37	96	8	63.5	1 Nor.		12.9
			Carleton	23.8	50	99	7	65	2 CW AD	G.	12.2
			Pelissier	24.3	42	98	7	64	2 CW AD	I.	11.2
			Mida	34	41	93	7	65	2 Nor.	St. I.	12.2
Necessary difference—2.45 bus.											

ELMAR NORMAN EINARSON, TANTALLON											
C	7	9	Thatcher	29.9	36	112	10	62	2 Nor.	I. Bl.	15.8
			Apex	26.2	36	114	8	62.5	2 Nor.	G. I.	14.9
			Regent	32.1	34	112	9	64	1 Nor.		15.1
			Carleton	37.1	60	121	9	65.5	1 CW AD		13.9
			Pelissier	27.4	38	121	9	62.5	2 CW AD	G. Sh.	15.0
			Mida	34.5	36	113	10	64	3 Nor.	I.	15.0
Necessary difference—6.87 bus.											

LEROY WENDEL, NEUDORF											
C	7	11	Thatcher	37.8	30	102	9.5	63	3 Nor.	G. I.	15.6
			Apex	37.0	30	101	8	63.5	3 Nor.	G. I.	15.0
			Regent	34.9	31	102	9	63.5	3 Nor.	G. I.	15.5
			Carleton	37.8	41	111	9	64	3 CW AD	G. S.le.	14.6
			Pelissier	41.9	39	109	8.2	61.5	3 CW AD	G. S.le.	14.6
			Mida	38.9	37	109	9.2	62.5	4 Nor.	G. I.	13.9
No significant grain yield difference between varieties.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C 7 4 Lawrence Hopp, Kipling

WHEAT POOL DISTRICT 8

Area	Dist.	Sub-Dist.	Varieties	Yield per acre	Plant height in ins.	Days seed-ing to ripening	Straw strength	Lbs. per measured bus.	Com-mercial grades	Grading remarks	Protein contents in percentage
EDGAR LESLIE KVMESHAGEN, PREECEVILLE											
C	8	8	Thatcher	24	28	104	9.5	60	No. 5	F.	14.8
			Apex	19.6	29	106	9	59.5	No. 5	F.	14.6
			Regent	18.4	26	106	8.1	60	No. 5	F.	15.1
			Carleton	21.6	38	109	9.5	62.5	4 CW AD	F. G.	13.5
			Pelissier	25.4	34	109	9	59.5	4 CW AD	F. G.	13.0
			Mida	20.0	28	110	8.1	60.5	No. 5	F. G.	14.7
Necessary difference—3.7 bus.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C	8	1	George Purich, Wroxton
C	8	4	Earl Grant Knoll, Orcadia

WHEAT POOL DISTRICT 9

JOE HILLIAR, TULLYMET

C	9	1	Thatcher	31.4	....	....	....	63.5	3 Nor.	G. I.	15.3
			Apex	30.1	....	....	....	64	2 Nor.	I.	15.3
			Regent	29.8	....	....	....	64	2 Nor.	I.	14.8
			Carleton	23.1	....	....	....	61.5	3 CW AD	G. I.	15.5
			Pelissier	27.6	....	....	....	61	3 CW AD	G. I.	14.6
			Mida	34.8	....	....	....	64	3 Nor.	G. I.	15.0

No significant grain yield difference between varieties.

EARNEST ORBAN, PUNNICHY

C	9	3	Thatcher	37.8	37	121	9.2	65	1 Hd.		14.6
			Apex	34.1	39	121	7.2	65	1 Hd.		14.6
			Regent	34.0	38.2	121	8.8	65	1 Hd.		15.7
			Carleton	32.3	44.2	127	8.0	65	1 CW AD		13.8
			Pelissier	37.6	43	125	8.0	65	1 CW AD		13.3
			Mida	38.7	40	122	9.2	65.5	1 Nor.		14.7

Necessary difference—1.85 bus.

ERNIE M. SCHERLIE, EARL GREY

C	9	4	Thatcher	20.2	30	....	10	63	1 Nor.	Bl.	14.9
			Apex	16.9	30	....	7.5	64	1 Hd.		15.1
			Regent	16.4	29	....	5.5	62	1 Nor.		15.4
			Carleton	10.3	28	....	5.5	64	1 CW AD		15.7
			Pelissier	14.2	28	....	5.5	63	2 CW AD	I.	15.0
			Mida	16.0	30	....	6	63	2 Nor.	Bl. I.	14.3

Necessary difference—2.15 bus.

NORMAN DOBSON, FOAM LAKE

C	9	9	Thatcher	21.2	....	....	....	58.5	3 Nor.	B.bl.	15.7
			Apex	19.9	....	....	....	59.5	2 Nor.		15.8
			Regent	19.6	....	....	....	58.0	3 Nor.	B.bl.	15.3
			Carleton	19.4	....	....	....	64.5	1 CW AD		16.4
			Pelissier	23.6	....	....	....	63.5	1 CW AD		15.6
			Mida	25.0	....	....	....	60	2 Nor.	Bl.	15.1

Necessary difference—3.22 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

C	9	2	Mervyn John Francis Burley, Dysart
B	9	5	Marjorie Young, Cymric
B	9	6	Leland M. Greenfield, Nokomis

WHEAT POOL DISTRICT 10

BERYL FRANCES ANDREWS, GILROY

B	10	2	Thatcher	33.4	31	95	9.8	63	1 Nor.		14.6
			Apex	24.9	33	101	8.2	64	1 Nor.		14.4
			Regent	25.3	31	97	9.8	63.5	1 Nor.		14.4
			Carleton	25.1	36	108	9	64.5	1 CW AD		13.8
			Pelissier	36.2	41	105	8.8	63.5	1 CW AD		13.3
			Mida	26.6	34	103	9.5	65.5	1 Nor.		13.8

Necessary difference—4.22 bus.

DEAN ELWOOD LAVENDER, GLENSIDE

B	10	6	Thatcher	27.7	30	97	3.8	63.5	1 Nor.		15.3
			Apex	24.0	30	97	4.2	64.5	1 Hd.		15.1
			Regent	23.2	29	97	7.8	63	1 Nor.		15.0
			Carleton	18.5	30	96	2	64	1 CW AD		15.4
			Pelissier	31.1	30	97	1	63.5	1 CW AD		15.1
			Mida	27.8	29	97	7.8	65	1 Nor.		14.7

Necessary difference—3.47 bus.

Wheat Pool District 10—Continued

Area	Dist.	Sub-Dist.	Varieties	Yield per acre	Plant height in ins.	Days seed- ing to ripening	Straw strength	Lbs. per measured bus.	Com- mercial grades	Grading remarks	Protein contents in percentage
WALTER SAMUEL GREGOR, DAVIDSON											
B	10	7	Thatcher	14.1	28	88	9	59	3 Nor.	B.bl.	16.9
			Apex	14.1	28	90	9	61	2 Nor.	Bl. Sl.g.	17.0
			Regent	11.8	28	90	9	58	3 Nor.	B.bl.	16.7
			Carleton	4.1	24	105	10	62.5	3 CW AD	Sl.e.	17.9
			Pelissier	12.0	25	98	10	63	3 CW AD	Sl.e.	17.1
			Mida	15.3	30	91	9	61.5	3 Nor.	G.	15.8
Necessary difference—2.22 bus.											

HARRIS RAYMOND REID, RENOWN											
B	10	8	Thatcher	17.2	36	98	....	63.5	1 Nor.		16.6
			Apex	15.6	35	99	....	64	1 Hd.		16.7
			Regent	16.4	37	99	....	63	1 Nor.		16.9
			Carleton	11.2	38	99	....	65.5	1 CW AD		16.1
			Pelissier	17.5	37	98	....	65	1 CW AD		15.7
			Mida	13.8	39	98	....	64.5	1 Nor.		16.6
No significant grain yield difference between varieties.											

WHEAT POOL DISTRICT 11

ERNEST RAYMOND KANASEWICH, EATONIA											
A	11	3	Thatcher	3.4	16	92	8.5	59	2 Nor.		15.8
			Apex	2.4	15	91	8.2	60	2 Nor.		15.3
			Regent	3.3	15	91	8.2	58	2 Nor.		16.5
			Carleton	0.3	16	94	8.2	....			15.4
			Pelissier	0.4	16	94	8.0	....			15.1
			Mida	3.1	17	93	8.5	62	1 Nor.		14.6
Samples bulked.											

GEORGE JOHN WYLLIE, BROCK											
A	11	6	Thatcher	24.8	30	95	9.2	63	1 Nor.		14.5
			Apex	21.3	32	97	8.8	64	1 Hd.		14.1
			Regent	20.6	30	95	9.0	63.5	1 Nor.		14.3
			Carleton	16.7	37	99	9.8	64.5	1 CW AD		14.9
			Pelissier	23.1	35	101	9.8	63.5	1 CW AD		13.7
			Mida	22.9	33	97	8.5	65	1 Nor.		13.8
Necessary difference—2.44 bus.											

ARTHUR GRANT MADIN, PLENTY											
A	11	9	Thatcher	12.9	25	99	8.2	62.5	1 Nor.		14.0
			Apex	9.7	26	97	8.5	62.5	1 Nor.		13.8
			Regent	11.1	25	98	7.2	63	1 Nor.		14.1
			Carleton	8.5	27	107	10	64.5	2 CW AD	I.	14.3
			Pelissier	9.3	30	106	10	63.5	2 CW AD	I.	12.7
			Mida	10.6	26	99	8.5	64.5	1 Nor.	Sl.g.	13.1
No significant grain yield difference between varieties.											

ANGEL SUNDBY, FUSILIER											
A	11	10	Thatcher	40.2	....	....	....	63	4 Nor.	G. F.	14.3
			Apex	40.7	....	....	....	63	4 Nor.	G. F.	14.7
			Regent	37.4	....	....	....	62.5	4 Nor.	F.	15.5
			Carleton	54.8	....	....	....	64	4 CW AD	F.	13.3
			Pelissier	39.8	....	....	....	61	5 CW AD	G. F.	12.6
			Mida	37.1	....	....	....	63.5	No. 5	G. F.	15.0
Necessary difference—3.8 bus.											

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
A	11	1	Ronald Larry Smith, Sanctuary								
A	11	7	H. J. Evans, Rosetown								

WHEAT POOL DISTRICT 12

INA AND BILL KEITH, OBAN											
D	12	2	Thatcher	44.8	....	....	5	64	1 Nor.		14.9
			Apex	43.7	....	....	9	63	2 Nor.	I.	14.7
			Regent	33.7	....	....	9	64	2 Nor.	I.	15.7
			Carleton	43.3	....	....	8	66	1 CW AD	Sl.e.	14.5
			Pelissier	48.1	....	....	9	63	3 CW AD	G. I.	14.0
			Mida	49.7	....	....	9	64	3 Nor.	I.	15.8
Necessary difference—4.48 bus.											

WHEAT POOL DISTRICT 13

Area	Dist.	Sub-Dist.	Varieties	Yield per acre	Plant height in ins.	Days seed- ing to ripening	Straw strength	Lbs. per measured bus.	Com- mercial grades	Grading remarks	Protein contents in percentage
CHARLES GEORGE COATES, LEROY											
B	13	1	Thatcher	24.5	34	101	9.5	63	1 Nor.	Bl.	15.1
			Apex	21.4	36	101	7.8	63	1 Hd.		15.5
			Regent	19.0	33	101	9.0	63	1 Nor.	Bl.	15.3
			Carleton	16.8	47	117	9.0	65	1 CW AD		15.7
			Pelissier	21.9	42	123	7.8	63.5	1 CW AD		13.9
			Mida	20.9	37	103	9.6	64.5	1 Nor.	Sl.I.	14.9
Necessary difference—2.45 bus.											

ANNE FLOREEN VERONICA EISWERTH, YOUNG											
B	13	2	Thatcher	10.1	26	96	8	61	2 Nor.	B.bl.	15.4
			Apex	12.0	28	96	9.8	61	2 Nor.	B.bl.	15.0
			Regent	11.0	28	98	9	61	2 Nor.	B.bl.	16.1
			Carleton	10.0	34	118	10	65	1 CW AD		14.7
			Pelissier	9.1	30	114	9.5	64.5	2 CW AD		14.3
			Mida	8.5	30	118	9.5	61.5	2 Nor.	Bl.	14.9
No significant grain yield difference between varieties.											

PHILIP ALEXANDER HAICHERT, WARMAN											
B	13	5	Thatcher	29.0	38	100	10	65	1 Hd.		13.7
			Apex	16.7	34	100	8.8	65	1 Hd.		13.8
			Regent	22.6	37	100	9.8	65	1 Hd.		14.6
			Carleton	22.6	44	119	9.2	66.5	1 CW AD		12.7
			Pelissier	25.4	40	121	9.5	64.5	1 CW AD		12.3
			Mida	25.8	41	102	9.5	65	2 Nor.	G. I.	13.1
Necessary difference—2.00 bus.											

WILLIAM E. HNIDY, WAKAW											
D	13	9	Thatcher	17.0	35	123	9	61	2 Nor.	B.bl.	15.1
			Apex	28.1	32	123	9	63	1 Nor.		15.3
			Regent	27.3	34	123	9	62	2 Nor.	Bl. I.	15.0
			Carleton	30.1	42	125	10	64	2 CW AD	I.	15.0
			Pelissier	29.2	45	125	10	56	5 CW AD	Sh. I.	15.5
			Mida	28.6	32	123	9	62.5	3 Nor.	G. I.	15.1
No significant grain yield difference between varieties.											

WHEAT POOL DISTRICT 14

RUSSELL OTTO GECK, KELVINGTON											
C	14	1	Thatcher	23.3	34	108	....	60	2 Nor.	Bl.	14.7
			Apex	21.9	34	108	....	62	1 Nor.		14.6
			Regent	20.5	34	108	8	60	2 Nor.	Bl. I.	14.9
			Carleton	25.1	45	111	9	64.5	1 CW AD		15.1
			Pelissier	23.4	45	108	9	64	2 CW AD	I.	14.4
			Mida	23.6	41	108	8	61.5	2 Nor.	I.	14.6
No significant grain yield difference between varieties.											

CLIFFORD E. CLOSSON, CLAIR											
C	14	2	Thatcher	12.3	28	97	9.2	65	1 Hd.		12.3
			Apex	15.8	31	97	7.5	64	1 Nor.	Sl.g.	11.8
			Regent	13.5	29	97	8.5	65	1 Nor.	Sl.g.	12.0
			Carleton	11.3	36	111	9.5	67	1 CW AD		12.4
			Pelissier	12.0	34	113	9	66	1 CW AD		11.4
			Mida	12.4	31	100	8.8	65.5	3 Nor.	F. I.	15.0
No significant grain yield difference between varieties.											

JAMES FREEMAN BIEHN, LAC VERT											
C	14	3	Thatcher	36.8	....	....	....	62	4 Nor.	F.	14.9
			Apex	36.2	....	....	....	63	4 Nor.	F.	14.8
			Regent	33.6	....	....	....	62	4 Nor.	F.	14.4
			Carleton	26.5	....	....	....	61.5	4 CW AD	F.	14.8
			Pelissier	33.1	....	....	....	60.5	5 CW AD	F.	14.1
			Mida	36.0	....	....	....	62.5	No. 5	F.	14.7
Necessary difference—3.37 bus.											

PETER A. CIPYWNKY, WHITOME											
E	14	9	Thatcher	50.9	38	106	10	61	4 Nor.	G. I.	14.4
			Apex	43.0	38	106	9.8	63	3 Nor.	G. I.	13.9
			Regent	42.8	38	106	10	63.5	3 Nor.	G. I.	15.1
			Carleton	42.0	48	119	4.8	64	2 CW AD	Sl.g.	14.0
			Pelissier	45.8	48	119	4.8	62.5	3 CW AD	I.	14.3
			Mida	48.1	38	106	10	63.5	3 Nor.	G. I.	14.9
Necessary difference—3.05 bus.											

Wheat Pool District 14—Continued

Area	Sub-Dist.	Dist.	Varieties	Yield per acre	Plant height in ins.	Days seed- ing to ripening	Straw strength	Lbs. per measured bus.	Com- mercial grades	Grading remarks	Protein contents in percentage
MARGUERITE PAULINE STRAD, MEGAN											
E	14	10	Thatcher	12.2	24	107	8.5	61.5	No. 5	F.	14.8
			Apex	7.4	26	107	8.8	61.0	No. 5	F.	13.1
			Regent	7.5	25	105	8.5	61.5	No. 5	F.	15.9
			Carleton	11.6	36	106	8.8	63.5	4 CW AD	F. G.	14.4
			Pelissier	13.9	31	107	8.8	60.5	4 CW AD	F. G.	14.6
			Mida	9.2	28	106	10	61.5	No. 5	F. G.	15.7
Necessary difference—3.17 bus.											
STUART SHUKER, NIPAWIN											
E	14	11	Thatcher	33.9	33	107	10	64	1 Nor.		12.7
			Apex	29.3	36	103	10	64.5	1 Nor.		12.2
			Regent	31.7	31	101	10	65	1 Nor.		11.8
			Carleton	27.4	46	113	10	65.5	1 CW AD		11.5
			Pelissier	33.6	43	113	9	64.5	1 CW AD		11.4
			Mida	32.5	38	101	10	65.5	2 Nor.	I.	13.1
Necessary difference—2.55 bus.											
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes											
E	14	6	Gordon Harold Touet, Copeau								

WHEAT POOL DISTRICT 15

JOHN PERCY BAKER, RED DEER HILL											
D	15	3	Thatcher	34.3	40	108	9.8	58	No. 6	F.	13.4
			Apex	28.2	41	107	8.8	56.5	No. 6	F.	13.0
			Regent	37.5	40	103	10	58.5	No. 6	F.	14.1
			Carleton	19.2	49	108	9.8	47.5	Fd.	F.	14.9
			Pelissier	25.6	46	108	8.8	50.5	Fd.	F.	14.4
			Mida	34.6	43	107	9.8	56.5	Fd.	F.	14.2
Necessary difference—3.37 bus.											
DOUGLAS LLOYD GOOD, SHELL LAKE											
D	15	6	Thatcher	28.9	...	...	...	60.5	No. 6	F. D.k. I.	13.3
			Apex	21.4	...	...	...	62	No. 5	F. G. I.	14.4
			Regent	24.2	...	...	...	61.5	No. 6	F. D.k. I.	13.5
			Carleton	17.1	...	...	...	59.5	5 CW AD	F.	14.1
			Pelissier	16.9	...	...	...	57	6 CW AD	F. Sh.	14.3
			Mida	27.9	...	...	...	61	No. 6	F. G. I.	14.2
Necessary difference—4.30 bus.											
EDWIN RASK, NESTLEDOWN											
D	15	7	Thatcher	56.1	42	122	9	61	3 Nor.	G. I.	12.7
			Apex	45.1	41	123	9	61	3 Nor.	G. I.	14.0
			Regent	42.0	41	123	9	61.5	4 Nor.	G. I.	14.0
			Carleton	44.5	79	124	2	62	4 CW AD	V.g.	13.3
			Pelissier	22.7	51	124	2	54	5 CW AD	G. I.	13.3
			Mida	60.3	44	124	10	60.5	No. 5	V.g. I.	14.9
Samples bulked.											
ROLAND KURZ, FOXDALE											
D	15	8	Thatcher	22.3	36	...	...	53	Fd.	F.	12.9
			Apex	19.3	36	...	...	53	Fd.	F.	12.2
			Regent	22.2	38	...	...	55	Fd.	F.	12.7
			Carleton	13.3	40	...	...	45	Fd.	F.	13.4
			Pelissier	14.6	48	...	...	45.5	Fd.	F.	12.4
			Mida	22.6	40	...	...	52.5	Fd.	F.	12.4
Necessary difference—3.10 bus.											
NICK PARCHOMUK, PADDOCKWOOD											
E	15	9	Thatcher	38.9	37	109	8	61	No. 6	F.	12.0
			Apex	35.0	36	111	9	60	No. 5	F.	11.5
			Regent	34.2	34	110	8	60.5	No. 6	F.	11.9
			Carleton	34.9	58	118	10	63	5 CW AD	F.	11.2
			Pelissier	32.2	50	117	10	58	6 CW AD	F.	10.7
			Mida	37.1	60	118	10	61.5	No. 6	F.	11.8
No significant grain yield difference between varieties.											
JIM WYDOSKY, STRONG PINE											
D	15	10	Thatcher	43.2	42	117	9.8	64.5	1 Nor.	S.st.	12.0
			Apex	40.0	43	119	9.5	64	1 Nor.	S.st.	12.2
			Regent	40.4	43	118	9.0	64.5	1 Nor.	Sl.i.	12.5
			Carleton	46.7	58	118	9.2	66.5	3 CW AD	St. I.	10.3
			Pelissier	40.3	54	118	9.2	64.5	3 CW AD	G. I.	10.6
			Mida	47.1	49	118	10	65	3 Nor.	St. I.	11.8
No significant grain yield difference between varieties.											

WHEAT POOL DISTRICT 16

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height in ins.	Days seed-ing to ripening	Straw strength	Lbs. per measured bus.	Com-mercial grades	Grading remarks	Protein contents in percentage
JOHN (FRANK) FRANCIS SAUNDERS, BORDEN											
D	16	1	Thatcher	33.6	32	108	10	64	1 Nor.	St.	12.3
			Apex	33.6	34	108	10	64	1 Nor.	St.	12.4
			Regent	34.6	32	108	10	64	1 Nor.	St.	12.3
			Carleton	30.0	40	110	9	67	2 CW AD	St.	11.4
			Pelissier	37.0	54	114	8	65	2 CW AD	St. I.	10.4
			Mida	34.4	46	114	8	65.5	3 Nor.	St. I.	11.8

Necessary difference—2.33 bus.

GORDON VERNON ROY RUTTAN, LONE ROCK											
D	16	6	Thatcher	29.4	38	97	6	64	3 Nor.	G. I.	14.4
			Apex	27.3	42	100	4.2	62.5	4 Nor.	F. G. I.	14.2
			Regent	33.4	44	99	5.2	64	2 Nor.	I.	14.9
			Carleton	25.8	47	102	1.2	62.5	5 CW AD	G. F.	14.1
			Pelissier	28.6	51	104	4.5	58	6 CW AD	G. F.	14.2
			Mida	36.4	51	102	6	63.5	No. 5	F. G. I.	14.9

No significant grain yield difference between varieties.

HENRY L. JOHNSON, BIRCH LAKE											
E	16	9	Thatcher	32.8	42	133	8	59.5	No. 5	F.	14.2
			Apex	23.9	48	139	4	57	No. 5	F.	14.4
			Regent	30.0	42	129	6	59.5	No. 5	F.	14.7
			Carleton	20.8	73	....	2	63	5 CW AD	G. F.	12.3
			Pelissier	12.4	64	....	....	52	Fd.	F.	13.5
			Mida	34.7	50	139	5	61	No. 5	F.	13.4

Necessary difference—5.37 bus.

DOROTHY HAWKINS, BAPAUME											
E	16	10	Thatcher	22.2	38	99	9.8	64.5	3 Nor.	V.st.	8.9
			Apex	25.1	38	106	10	64	3 Nor.	V.st.	9.6
			Regent	20.6	38	98	10	64.5	2 Nor.	St.	9.4
			Carleton	17.7	50	111	8.8	66.5	3 CW AD	V.st.	8.4
			Pelissier	13.9	44	108	9	65.5	3 CW AD	G. St.	9.7
			Mida	23.5	42	110	9.2	64	4 Nor.	V.st.	8.7

Necessary difference—2.87 bus.

WALTER GEORGE HILLMAN, COMPASS											
E	16	11	Thatcher	25.7	42	....	8.8	57	Fd.	F.	13.4
			Apex	16.7	42	....	7.8	54	Fd.	F.	14.0
			Regent	18.0	44	....	7	58	No. 6	F.	14.1
			Carleton	12.2	60	....	6	56	6 CW AD	F.	13.2
			Pelissier	7.3	53	....	7.2	52	Fd.	F.	13.4
			Mida	22.0	51	....	7.2	54.5	Fd.	F.	13.3

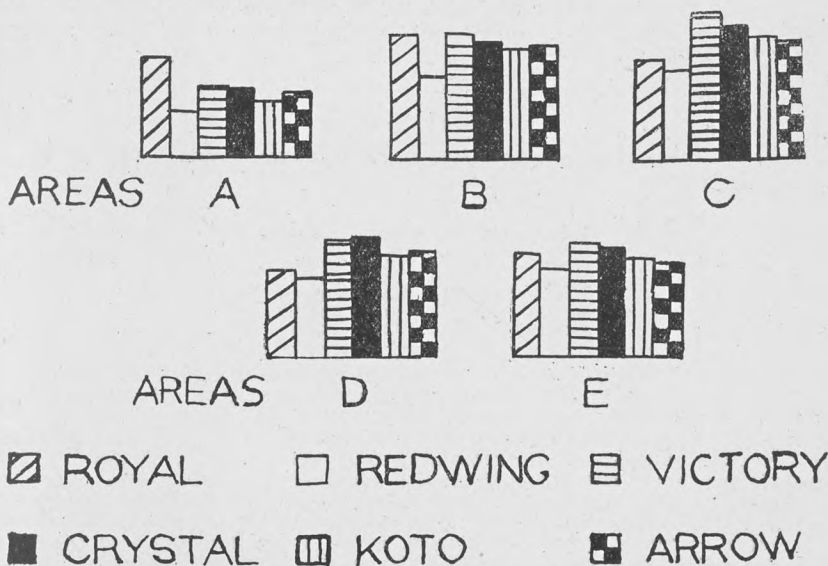
Necessary difference—2.72 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

E	16	7	Franklin Jas. Vick, St. Walburg
E	16	10	Kenneth Berg, Mildred
E	16	11	Vern Halpenny, Dorintosh

FLAX TESTS

The division of the Province into areas and the rainfall table used for the flax are the same as that used for the wheat.



Histograms Showing Grain Yield in Bushels Per Acre for Flax

VARIETIES USED IN TESTS— THEIR ORIGINS AND DISEASE REACTIONS

Royal.—Is a rust and wilt resistant variety, originating from a selection made from Crown at the University of Saskatchewan, Saskatoon. It has a high percentage oil content and satisfactory oil quality. Royal has mid-sized blue blossoms and mid-sized brown seeds which are characterized by a gradual whitening at the big end. It has definite resistance to spring frost.

Redwing.—Is wilt resistant, but moderately susceptible to stem rust. It was developed from a selection made at the Minnesota Agricultural Experiment Station. The seed is about medium sized and produces an oil of high quality.

Victory.—Is resistant to both wilt and rust. It was developed at the North Dakota Agricultural Experiment Station in a three way cross. No. 5585, which is from a Czechoslovakian flax, was crossed with Argentine. A selection from this cross was then crossed with Smoky Golden. From this latter cross the variety Victory was selected.

Its whitish blossoms and variable heights are its most noticeable field characteristics. The seed is brown and has a high percentage of oil.

Crystal.—Has wilt resistance and is immune from races of rust common in the United States. It is a selection from a cross between Bison and Ottawa 770B, made at the Minnesota Experiment Station. The crinkled white petals of its flower is a distinguishing characteristic in the field. The seed is a greenish yellow, medium-sized, with a high percentage of oil.

Koto.—Is wilt resistant, and has a tendency to rust under conditions in its native state. It was selected after crossing (Russian x Argentine) x Bison at the Northern Great Plains Field Station, Mandan, North Dakota. The seed is brown, medium-sized and has a high oil content.

Arrow.—Is highly resistant to rust and wilt. It was developed through the co-operation of the United States Department of Agriculture and the Montana Agricultural Experiment Station. Renew, a new variety, was crossed with Bison C.I. 1070 and Arrow is the name given to the selected hybrid. It has high oil content and oil quality.

Note:—The four latter varieties, Victory, Crystal, Koto and Arrow were developed in the United States and were not licensed for sale in Canada up to February 15, 1945.

GRAIN YIELD

TABLE No. 33.—AVERAGE YIELD IN BUSHELS PER ACRE

Areas	No. of satisfactory Tests	Royal	Redwing	Victory	Crystal	Koto	Arrow	Necessary difference in bus.
A	8	10.8	4.8	7.5	7.4	5.9	6.8	1.20
B	13	13.2	9.0	13.5	12.6	11.7	12.3	1.28
C	5	10.7	9.6	15.6	14.1	12.9	12.5	2.92
D	8	9.1	8.1	12.4	12.6	10.8	11.2	2.25
E	7	10.9	9.2	12.0	11.6	10.4	10.1	1.71

Table No. 33—gives the average yield in bushels for the different areas and the corresponding necessary differences. In Area A where drought conditions prevailed, Royal significantly outyielded all other varieties. This is the only area in which one variety was significant in yield over the others in the test. In three of the remaining four areas Victory yielded the most bushels per acre, but the differences were very definitely less than those necessary to give significance in yield over the other varieties. In the fifth area, Crystal outyielded Victory in bushels per acre, but the difference was not great enough to give significance. In all areas Redwing was the lowest in yield and was outyielded significantly by the heaviest yielder in the area.

DAYS FROM SOWING TO RIPENING

TABLE No. 34.—AVERAGE NUMBER OF DAYS FROM SOWING TO RIPENING

Areas	Royal	Redwing	Victory	Crystal	Koto	Arrow
A	108.5	98.5	102.2	108.2	101.0	107.5
B	108.6	98.2	108.2	110.5	108.0	109.8
C	101.3	95.0	103.0	104.3	103.3	102.6
D	120.0	110.5	124.5	125.0	119.5	122.0
E	121.0	117.0	120.6	120.0	121.0	121.3

Table No. 34.—Shows the average number of days required by each variety from sowing to ripening. In the five areas Redwing ripened considerably earlier than the other varieties especially in Areas B and D. In four of the five areas Crystal was last to mature. The remaining four varieties varied in their comparative periods for maturing, throughout the areas. No one of the four varieties showed any marked superiority over the others in this respect.

HEIGHT OF PLANTS

TABLE No. 35.—AVERAGE HEIGHT OF PLANTS IN INCHES

Areas	Royal	Redwing	Victory	Crystal	Koto	Arrow
A	17.8	17.2	17.5	19.2	17.7	18.5
B	21.7	23.4	24.0	24.1	22.3	22.4
C	22.3	22.0	22.6	23.6	23.0	22.6
D	22.6	22.6	24.3	25.3	22.6	23.6
E	22.6	22.2	22.4	24.4	22.8	22.4

Table No. 35 shows the average height of the plants in inches. In the five areas Crystal grew to the greatest height. Redwing was the shortest in four of the areas. The other four varieties varied in their comparative heights.

WEIGHT PER MEASURED BUSHEL

TABLE No. 36.—BUSHEL WEIGHT IN POUNDS

Areas	Royal	Redwing	Victory	Crystal	Koto	Arrow
A	53.6	55.1	53.6	52.6	54.1	53.3
B	53.8	54.7	53.2	52.0	54.4	53.0
C	53.6	55.4	54.0	52.6	54.8	54.2
D	53.4	54.7	53.6	52.7	54.1	53.4
E	50.3	53.1	50.5	50.4	52.5	50.7

Table No. 36 gives the average bushel weights of cleaned samples for the six varieties in the five areas. Redwing and Koto were consistent in their comparative weights. In the five areas Redwing was the heaviest and Koto came next in weight. Crystal was not quite so consistent. In four of the areas it weighed the least and in the fifth area it only outweighed the lightest variety by 0.1 lb. Royal, Victory and Arrow varied in their comparative bushel weights.

COMMERCIAL GRADES

TABLE No. 37.—PERCENTAGE OF COMMERCIAL GRADES BY VARIETIES

	1 C.W.	2 C.W.	3 C.W.	4 C.W.
Royal	66.7	11.9	19.0	2.4
Redwing	88.1	7.1	4.8	..
Victory	71.4	11.9	14.3	2.4
Crystal	73.8	14.3	9.5	2.4
Koto	78.6	11.9	9.5	..
Arrow	71.5	7.1	19.0	2.4

As shown in Table No. 37, Redwing was definitely the best grader. Koto was second and Crystal third. Royal had the lowest percentage in Grade 1 C.W. There was a slight difference at least between each variety.

SUMMARIZATION ACCORDING TO AREAS

AREA "A"

TABLE No. 38.—SUMMARIZED RESULTS FOR AREA "A"

	Royal	Redwing	Victory	Crystal	Koto	Arrow
Yield in bus. per acre	10.8	4.8	7.5	7.4	5.9	6.8
Days from sowing to ripening	106.5	98.5	102.2	108.2	101.0	107.5
Height of plants in inches	17.8	17.2	17.5	19.2	17.7	18.5
Bus. weight in lbs.	53.6	55.1	53.6	52.6	54.1	53.3
Commercial grades in percentage:						
1 C.W.	100	100	100	100	100	100
Necessary difference—1.20 bus.						

Table No. 38—Grain Yield.—Royal was outstanding in its yield compared to the other varieties. Victory was second with a difference of 3.3 bus. per acre. This amount exceeded the required necessary difference of 1.2 bus. and consequently Royal significantly outyielded all other varieties. **Earliness.**—There was a marked difference between the ripening dates of the varieties. Redwing was 2.5 days earlier than the second earliest, Koto. **Height.**—There was no great variation in height. Redwing was shortest in growth and Crystal the tallest with a difference of 2 inches. **Weight.**—Redwing exceeded all other varieties from one pound to two and a half pounds. **Grades.**—All varieties in this area graded 1 C.W. **Rust.**—All varieties showed a slight infection. **Canker.**—Only a very small damage to each variety was reported. **Summary of Outstanding Characteristics.**—Royal outyielded all varieties significantly. Redwing was earliest, the shortest in plant height and had the greatest bushel weight. All varieties graded 1 C.W.

AREA "B"

Table No. 39—Grain Yield.—All varieties outyielded Redwing significantly. Victory yielded the most bushels per acre, exceeding Royal by 0.3 bus. Since the necessary difference was 1.23 bus. the latter was not outyielded significantly. Victory and Royal also outyielded Koto significantly. **Earliness.**—Redwing was almost ten days earlier than the next earliest variety, Koto. The others took from 108 to 110.5 days to mature, Crystal

TABLE No. 39.—SUMMARIZED RESULTS FOR AREA "B"

	Royal	Redwing	Victory	Crystal	Koto	Arrow
Yield in bus. per acre	13.2	9.0	13.5	12.6	11.7	12.3
Days from sowing to ripening	108.6	98.2	108.2	110.5	108.0	109.8
Height of plants in inches	21.7	23.4	24.0	24.1	22.3	22.4
Bus. weight in lbs	53.8	54.7	53.2	52.0	54.4	53.0
Commercial grades in percentage:						
1 C.W.	92.3	92.3	92.3	85.0	92.3	92.3
2 C.W. ....	....	7.7	....	7.5	....	....
3 C.W.	7.7	....	7.7	7.5	7.7	7.7
Necessary difference—1.28 bus.						

being the latest. **Height.**—Royal averaged 21.7 inches in height, being 2.4 inches shorter than the tallest variety, Crystal. **Weight.**—Redwing excelled the other varieties by the following differences: Koto 0.3 lb., Royal 0.9 lb., Victory 1.5 lbs., Arrow 1.7 lbs., and Crystal 2.7 lbs. **Grades.**—Redwing was superior in grade to the other varieties. Royal, Victory, Koto and Arrow had an equal number of samples in grades 1 C.W. and 3 C.W. Crystal was slightly inferior to the others. **Rust.**—Koto was the only variety reported as not having even a slight infection. **Canker.**—All varieties suffered slightly. **Summary of Outstanding Characteristics.**—Redwing was outyielded significantly by all varieties. It was the earliest, had the heaviest bushel weight and was superior in grade. Crystal was the latest to mature, had the greatest height and graded the lowest. Victory yielded the greatest number of bushels per acre but was not significant over Royal, Crystal or Arrow.

AREA "C"

TABLE No. 40.—SUMMARIZED RESULTS FOR AREA "C"

	Royal	Redwing	Victory	Crystal	Koto	Arrow
Yield in bus. per acre	10.7	9.6	15.6	14.1	12.9	12.5
Days from sowing to ripening	101.3	95.0	103.0	104.3	103.3	102.6
Height of plants in inches	22.3	22.0	22.6	23.6	23.0	22.6
Bus. weight in lbs	53.6	55.4	54.0	52.6	54.8	54.2
Commercial grades in percentage:						
1 C.W.	33.4	100.0	66.8	66.7	66.7	33.4
2 C.W.	33.3	....	16.6	33.3	33.3	33.3
3 C.W.	33.3	....	16.6	....	....	33.3
Necessary difference—2.92 bus.						

Table No. 40—**Grain Yield.**—Victory exceeded the second highest variety Crystal, by 1.5 bus. per acre. Since the necessary difference was 2.92 bus. Victory did not significantly outyield Crystal. However, it was significant in yield over Arrow, Royal and Redwing. **Earliness.**—Redwing was 6.3 days earlier than Royal, which was second in maturing. The other five varieties did not differ as widely, Crystal being the latest. **Height.**—Redwing was the shortest at 22 inches and Crystal the tallest with 1.6 inches greater height. The other varieties ranged between these two. **Weight.**—Redwing excelled with a bushel weight of 55.4 lbs. The remaining five varieties lacked the following amount of equalling Redwing, Koto 0.6 lb., Arrow 1.2 lbs., Victory 1.4 lbs., Royal 1.8 lbs., and Crystal 2.8 lbs. **Grades.**—All the samples of Redwing graded 1 C.W. Royal and Arrow tied and were inferior to the others. Crystal and Koto were equal and slightly superior to Victory. **Rust.**—Arrow and Koto were the only varieties reported as showing susceptibility to rust, the former suffering the greatest infection. **Canker.**—No damage was reported. **Summary of Outstanding Characteristics.**—Victory yielded the most bushels per acre, but was only significant in yield over Arrow, Royal and Redwing. Redwing was the earliest, was the shortest, had the greatest bushel weight and graded the highest. Crystal was last to reach maturity, was the tallest, and had the lowest bushel weight.

AREA "D"

TABLE No. 41.—SUMMARIZED RESULTS FOR AREA "D"

	Royal	Redwing	Victory	Crystal	Koto	Arrow
Yield in bus. per acre	9.1	8.1	12.4	12.6	10.8	11.2
Days from sowing to ripening	120.0	110.5	124.5	125.0	119.5	122.0
Height of plants in inches	22.6	22.6	24.3	25.3	22.6	23.6
Bus. weight in lbs	53.4	54.7	53.6	52.7	54.1	53.4
Commercial grades in percentage:						
1 C.W.	62.5	100.0	62.5	75.0	87.5	75.0
2 C.W.	25.0	....	37.5	25.0	12.5	12.5
3 C.W.	12.5	....	....	....	....	12.5
Necessary difference—2.25 bus.						

Table No. 41—Grain Yield.—Crystal yielded 0.2 bus. per acre more than Victory. This difference was considerably short of equalling the necessary difference of 2.25 bus. Consequently, Crystal was not significant in yield over Victory, but was over Royal and Redwing. **Earliness.**—Redwing ripened slightly more than two weeks earlier than the latest variety, Crystal, and nine days earlier than Koto which was second to reach maturity. **Height.**—Royal, Redwing and Koto tied in being the shortest. Arrow was one inch taller, Victory 1.7 inches taller and Crystal 2.7 inches taller. **Weight.**—Redwing was the heaviest, weighing 54.7 lbs. and Crystal the lightest having 2 lbs. less weight. The other four varieties came within this range. **Grades.**—Redwing was the only variety, having all of its samples in 1 C.W. grade. Koto was second with 87.5 per cent. of its samples in the top grade. Royal graded the lowest. **Rust.**—Rust infection was reported. **Canker.**—All varieties were reported as being free from any damage. **Summary of Outstanding Characteristics.**—The difference in yield between Crystal and Victory was slightly in Crystal's favor, but was not significant. Crystal was last to mature, grew the tallest and had the lowest bushel weight. Redwing was very definitely the earliest. It equalled Royal and Koto in being shortest, was the highest in grade and bushel weight.

AREA "E"

TABLE No. 42.—SUMMARIZED RESULTS FOR AREA "E"

	Royal	Redwing	Victory	Crystal	Koto	Arrow
Yield in bus. per acre	10.9	9.2	12.0	11.6	10.4	10.1
Days from sowing to ripening	121.0	117.0	120.6	120.0	121.0	121.3
Height of plants in inches	22.6	22.2	22.4	24.4	22.8	22.4
Bus. weight in lbs.	50.3	53.1	50.5	50.4	52.5	50.7
Commercial grades in percentage:						
1 C.W.	14.3	42.8	14.3	28.6	28.6	28.6
2 C.W.	14.3	28.6	14.3	14.3	28.6	....
3 C.W.	57.1	28.6	57.1	42.8	42.8	57.1
4 C.W.	14.3	....	14.3	14.3	....	14.3
Necessary difference—1.71 bus.						

Table No. 42—Grain Yield.—Victory yielded the most bushels per acre, but did not yield significantly higher than its closest rival, Crystal. The difference was 0.4 bus. while the necessary difference required was 1.71 bus. Victory was significant in yield over Arrow and Redwing. **Earliness.**—Redwing was earlier than any of the other varieties by three days. The remaining varieties matured within 1.3 days of one another, Arrow being the latest. **Height.**—Redwing was shortest, having 2.2 inches less height than the tallest variety, Crystal. **Weight.**—Redwing excelled with a weight of 53.1 lbs., and outweighed the other varieties by the following differences: Koto 0.6 lb., Arrow 2.4 lbs., Victory 2.6 lbs., Crystal 2.7 lbs. and Royal 2.8 lbs. **Grades.**—The samples graded lower in this area than in the other four areas. This was due to frosted, immature and green kernels. Redwing had the largest number of samples in 1 C.W. grade. Victory and Royal were equal in grade and were the lowest. **Rust.**—No rust was reported. **Canker.**—There was no damage from canker. **Summary of Outstanding Characteristics.**—No variety was significant in yield above the remaining five varieties. However, Victory yielded significantly higher than Arrow and Redwing. Redwing was the earliest, was the shortest, had the heaviest bushel weight and graded the highest. Arrow was the latest in maturing, Royal the lowest in bushel weight and Crystal the tallest.

GENERAL SUMMARY OF VARIETAL PERFORMANCES

Varieties Listed in Order of Decreasing Yield.

VICTORY

Yield.—Victory's average yield of 12.1 bus. per acre was the highest of the six varieties. It exceeded the others by the following amounts: Crystal 0.5 bus., Royal 0.9 bus., Arrow 1.5 bus., Koto 1.8 bus., and Redwing 4 bus. In three of the five areas Victory outyielded the other varieties in grain yield, but the differences were not significant. **Earliness.**—Victory's average number of days from sowing to ripening was 109.9 days, which placed it third in earliness. In three of the five areas it attained the same comparative ranking. In the remaining two areas it was fourth to ripen in one and fifth in the other. **Height.**—There was very little difference in height between the varieties. From the shortest to the tallest the difference was two inches. Victory's average height was 22.3 inches, placing it next to the tallest variety, Crystal. **Weight.**—Victory averaged 52.9 lbs., equalling Arrow in bushel weight and exceeding Crystal, the lightest by 0.8 lb. **Grades.**—In comparison to the other varieties it might be said that Victory was fourth highest in grading, with 71.4 per cent. of its samples in grade 1 C.W., 11.9 per cent. in 2 C.W., 14.3 per cent. in 3 C.W. and 2.4 per cent. in 4 C.W. **Rust.**—Rust was only reported on Victory in Areas "A" and "B". This gave it an average of 0.23 per cent. infection and its comparative placing was the third heaviest sufferer. **Canker.**—Reports ranked Victory as the third heaviest loser to canker.

CRYSTAL

Yield.—In one area Crystal yielded slightly higher in bushels per acre than Victory, was second in two areas and third in the remaining two areas. Crystal's average of all tests was 11.6 bus. per acre. This amount was 0.5 bus. less than Victory and exceeded the other varieties by the following amounts: Royal 0.4 bus., Arrow 1.0 bus., Koto 1.3 bus. and Redwing 3.5 bus. **Earliness.**—Crystal took the longest period to reach maturity of the six varieties, requiring 112.1 days. This ranking is quite consistent with that of the individual areas since Crystal was last to ripen in all areas, except one. In this one area it was second to mature. The difference between Crystal and the latest variety was only 1.3 days. The average of Crystal in all the tests was 0.7 day longer than the next latest variety, Arrow. **Height.**—In all areas Crystal was the tallest growing flax and this record held true in the over-all averages. By averaging 23.4 inches, it was taller than the other varieties by the following amounts: Victory 1.1 inches, Arrow 1.5 inches, Redwing and Koto, which tied 1.7 inches and Royal 2 inches. **Weight.**—Crystal's bushel weight was 52.1 lbs. This weight was the lightest and lacked 0.8 lb. of equalling the weights of Victory and Arrow, which were tied and next heaviest. In four of the five areas it held the same position in comparison to the other varieties. In the remaining area it only exceeded Royal by 0.1 lb. **Grades.**—Crystal was not the lowest in grading nor the highest, but might be placed in third position. Approximately 74 per cent. of its samples graded 1 C.W., 14.3 per cent. graded 2 C.W., 9.5 per cent. graded 3 C.W. and 2.4 per cent. 4 C.W. **Rust.**—Royal and Crystal had equal and the lowest averages of reported rust infection. **Canker.**—Crystal had the lowest average for canker damage.

ROYAL

Yield.—Royal averaged 11.2 bushels per acre in the Province wide tests. This average placed it third highest and exceeded the lower averages of Arrow, Koto and Redwing by 0.6 bus., 0.9 bus. and 3.1 bus., respectively. Royal was the only variety to outyield all other varieties in any one of the five areas significantly. This occurred in Area "A" when Royal yielded 3.3 bus. more than its closest rival. **Earliness.**—The average number of days required by Royal to reach maturity was 110.3 days. This length of time was only exceeded by Arrow and Crystal. **Height.**—The average height reached by Royal was 21.4 inches, making it the shortest. The second tallest were Redwing and Koto tying at a height of 21.7 inches. **Weight.**—Royal's average bushel weight was 53.0 lbs. This weight was excelled by Koto and

Redwing. Grades.—Royal had the lowest percentage of its samples in 1 C.W. of all the varieties, and might be considered as the variety grading the lowest. Two thirds of its samples were in grade 1 C.W., 11.9 per cent. in 2 C.W., 19 per cent. in 3 C.W. and 2.4 per cent. in 4 C.W. **Rust.**—Royal and Crystal tied in having the lowest percentage of rust infection. **Canker.**—The damage reported gave Royal the smallest loss.

ARROW

Yield.—Arrow's average yield was 10.6 bus. per acre, outyielding Koto by 0.3 bus. and Redwing by 2.5 bus. In three areas the yield of Arrow ranked fourth highest, in one third and the remaining area fifth. **Earliness.**—The average time taken by Arrow to mature was 111.4 days. This time was second longest and was 0.7 day less than the period required by Crystal. **Height.**—Arrow ranked fourth highest with an average length of 21.9 inches. It was 0.2 inch taller than Redwing and Koto which tied and 0.4 inch shorter than the fifth tallest, Victory. **Weight.**—Arrow and Victory were equal, each having a bushel weight of 52.9 lbs. This weight was second highest and was 1.7 lbs. less than the heaviest variety, Redwing. **Grades.**—With 71.5 per cent. of its samples in 1 C.W. grade, 7.1 per cent. in 2 C.W., 19 per cent. in 3 C.W. and 2.4 per cent. in 4 C.W. Arrow could be placed as the second lowest in grading. **Rust.**—Arrow was reported as having definitely more rust infection than the other varieties. **Canker.**—The loss suffered by Arrow was the highest of all varieties.

KOTO

Yield.—In one area Koto was third highest in yield, in two areas fourth, and in the remaining two fifth. Its average of 10.3 bus. per acre caused it to be placed fifth, outyielding Redwing, the lowest by 2.2 bus. per acre. **Earliness.**—Koto was the second earliest, reaching maturity in an average time of 109.1 days. This average was 6.9 days longer than that of Redwing and 0.8 day earlier than the third earliest variety, Victory. **Height.**—Koto's average height of 21.7 inches equalled that of Redwing. These two varieties were second shortest, exceeding Royal by 0.3 inches. **Weight.**—Fifty-four pounds was Koto's average bushel weight when all tests were totalled. Its weight was second heaviest and lacked 0.6 lb. of equalling Redwing which was superior to all varieties. **Grades.**—Koto held the second position in grades. Its samples were divided as follows: 78.6 per cent. in 1 C.W. grade, 11.9 per cent. in 2 C.W. and 9.5 per cent. in 3 C.W. **Rust.**—Koto showed decidedly less infection than Arrow, but was more heavily infected than the remaining four varieties. **Canker.**—Koto again followed Arrow with the same percentage as reported for rust.

REDWING

Yield.—Redwing appeared to have less yielding ability than the other varieties. In all five areas it was definitely the lowest in yield and was significantly outyielded by the leading variety. Its average of all tests was 8.1 bus. per acre. The other varieties excelled it by the following amounts: Victory 4 bus., Crystal 3.5 bus., Royal 3.1 bus., Arrow 2.5 bus. and Koto 2.2 bus. **Earliness.**—In the five areas Redwing was undoubtedly the earliest variety, maturing from approximately three to ten days earlier than the second earliest variety. Taking the tests as a whole, Redwing matured in an average of 102.2 days. **Height.**—In four out of the five area averages Redwing was the shortest. The remaining average placed it the fourth highest. However, the overall average gave it a height of 21.7 inches, exceeding Royal the shortest variety by 0.3 inch. **Weight.**—In all areas Redwing outweighed the other varieties and did likewise in the average of all tests. Its average weight was 54.6 lbs. exceeding its closest rival, Koto by 0.6 lb. **Grades.**—Redwing's superiority showed up in this average as it did in the area averages. Slightly over 88 per cent. of its samples were in 1 C.W. grade, 7.1 per cent. in 2 C.W. and 4.8 per cent. in 3 C.W. In three out of the five areas all of its samples were in the top grade. **Rust.**—Redwing was reported as being the fourth heaviest infected by rust. **Canker.**—The percentage of damage suffered by Redwing placed it in the same comparative position as for rust infection.

TABLE No. 43

Individual Summarized Results of Flax Tests

WHEAT POOL DISTRICT 1

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
ROSARIO BOUTIN, CANTAL									
C	1	2	Royal	8.3	23	104	55.5	3 CW	G. F.
			Redwing	8.4	23	103	55.5	1 CW	
			Victory	20.6	26	105	54	2 CW	F.
			Crystal	15.6	25	107	54	2 CW	F.
			Koto	14.5	24	105	55	2 CW	F.
			Arrow	8.7	21	105	55.5	3 CW	F.
Necessary difference—2.13 bus.									

EMERSON DOUGLAS GOUD, ESTEVAN									
B	1	5	Royal	18.3	22	108	53	1 CW	
			Redwing	12.4	22	97	52.5	1 CW	
			Victory	17.4	23	106	52	1 CW	
			Crystal	15.9	25	106	52	2 CW	
			Koto	14.5	22	106	53.5	1 CW	
			Arrow	16.3	23	106	52.5	1 CW	
Necessary difference—1.75 bus.									

LOIS MOWERY, RATCLIFFE									
B	1	7	Royal	15.8	....	....	54	1 CW	
			Redwing	13.2	....	....	54	1 CW	Sl.f.
			Victory	15.8	....	....	52	1 CW	Spl.
			Crystal	17.3	....	....	51.5	1 CW	Sl.f.
			Koto	13.4	....	....	54.5	1 CW	
			Arrow	13.1	....	....	52.5	1 CW	Spl.
No significant grain yield difference between varieties.									

WILLIAM AUGUST McDOWELL, GRIFFIN									
B	1	8	Royal	25.5	....	....	54	1 CW	
			Redwing	15.6	....	....	55	1 CW	
			Victory	24.7	....	....	53.5	1 CW	Spl.
			Crystal	25.4	....	....	51	1 CW	Spl.
			Koto	21.1	....	....	54	1 CW	
			Arrow	22.4	....	....	52.5	1 CW	
No significant grain yield difference between varieties.									

GEORGE LEONARD BUTT, ARCOLA									
C	1	9	Royal	13.0	....	....	53.5	1 CW	Sl.f.
			Redwing	10.1	....	....	55	1 CW	Sl.f.
			Victory	12.1	....	....	53.5	1 CW	Spl.
			Crystal	13.2	....	....	52	1 CW	Sl.f.
			Koto	10.6	....	....	54.5	1 CW	Sl.f.
			Arrow	15.0	....	....	52.5	2 CW	G. F.
Necessary difference—2.08 bus.									

WHEAT POOL DISTRICT 2

RONALD BOYD MILLS, LAKE ALMA									
B	2	1	Royal	13.9	....	....	54	3 CW	G. F.
			Redwing	7.5	....	....	54.5	2 CW	F.
			Victory	18.5	....	....	53	3 CW	G. F.
			Crystal	18.0	....	....	50	3 CW	G. F.
			Koto	15.1	....	....	53.5	3 CW	F.
			Arrow	16.0	....	....	49	3 CW	G. F.
Necessary difference—2.75 bus.									

DAVID PATERSON, HART									
A	2	3	Royal	14.2	....	93	54	1 CW	
			Redwing	8.2	....	94	56	1 CW	
			Victory	14.4	....	92	54.5	1 CW	
			Crystal	12.9	....	100	53.5	1 CW	
			Koto	12.1	....	93	55	1 CW	
			Arrow	13.0	....	97	54	1 CW	
Necessary difference—1.02 bus.									

Wheat Pool District 2—Continued

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
KENNETH MAXWELL GALLOWAY, MACWORTH									
A	2	5	Royal	2.6	19	112	54	1 CW	
			Redwing	2.8	20	92	56	1 CW	
			Victory	5.3	20	110	54	1 CW	Sl.f.
			Crystal	4.0	21	112	52.5	1 CW	Sl.f.
			Koto	4.0	20	103	55	1 CW	Sl.f.
			Arrow	4.3	21	112	54	1 CW	Sl.f.
Necessary difference—0.86 bus.									

NICK C. YORGA, FLINTOFT									
A	2	7	Royal	11.4	9	117	53	1 CW	
			Redwing	7.6	9	117	53	1 CW	
			Victory	11.9	7	116	54	1 CW	
			Crystal	11.0	9	117	52.5	1 CW	
			Koto	8.7	8	117	53	1 CW	
			Arrow	9.5	7	117	52.5	1 CW	
Necessary difference—1.87 bus.									

JAMES MAKUTA, FLINTOFT									
A	2	7	Royal	5.1	21	104	53.5	1 CW	Spl.
			Redwing	4.0	19	91	55.5	1 CW	
			Victory	6.3	20	91	52	1 CW	Spl.
			Crystal	4.6	22	104	51	1 CW	Sl.g.
			Koto	3.9	20	91	55	1 CW	Spl.
			Arrow	3.5	22	104	53.5	1 CW	Spl.
Necessary difference—1.51 bus.									

EILEEN MALESH, READLYN									
A	2	8	Royal	13.2	22	....	53	1 CW	
			Redwing	8.1	21	....	54.5	1 CW	
			Victory	13.7	23	....	53	1 CW	
			Crystal	10.7	25	....	52.5	1 CW	
			Koto	10.4	23	....	53	1 CW	Sl.f.
			Arrow	12.1	24	....	53	1 CW	Spl.
Necessary difference—2.09 bus.									

WHEAT POOL DISTRICT 3

Tests Discarded on Account of Severe Damage by Drought, Hall, Pests or Other Causes

A	3	5	Jack F. Wagner, Senate
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WHEAT POOL DISTRICT 4

Tests Discarded on Account of Severe Damage by Drought, Hall, Pests or Other Causes

A	4	7	Tony Roy John Schmidt, Richmond
A	4	9	Ruth Lenore Pyke, Sceptre

WHEAT POOL DISTRICT 6

JOHN FRANCIS WEISSHAAR, WILCOX

B	6	3	Royal	10.8	....	....	54.5	1 CW	
			Redwing	6.8	....	....	55.5	1 CW	
			Victory	9.0	....	....	54.5	1 CW	
			Crystal	11.6	....	....	53	1 CW	
			Koto	9.6	....	....	55	1 CW	
			Arrow	10.2	....	....	54	1 CW	
Necessary difference—0.97 bus.									

ALEXANDER H. DUNCAN, ROULEAU

B	6	6	Royal	17.6	27	99	55	1 CW	Spl.
			Redwing	18.5	29	97	55.5	1 CW	
			Victory	18.7	29	98	54	1 CW	Spl.
			Crystal	20.0	28	99	54	1 CW	
			Koto	18.6	29	98	55	1 CW	
			Arrow	19.9	27	98	54.5	1 CW	
No significant grain yield difference between varieties.									

Wheat Pool District 6—Continued

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
OLIVE THOMPSON, DISLEY									
B	6	10	Royal	18.9	24	....	52	1 CW	
			Redwing	14.1	23	....	55.5	1 CW	
			Victory	20.4	25	....	52.5	1 CW	
			Crystal	17.7	27	....	51	1 CW	
			Koto	15.1	24	....	54	1 CW	
			Arrow	18.2	25	....	53.5	1 CW	
Necessary difference—2.28 bus.									

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

B	6	1	Ernest Woldemar Richter, Yellow Grass						
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WHEAT POOL DISTRICT 7

EARL LOUIS GRIFFIN, MOOSOMIN									
C	7	2	Royal	9.7	94	53.5	2 CW	F.
			Redwing	18.3	....	77	56	1 CW	
			Victory	18.0	....	94	54	1 CW	
			Crystal	14.8	....	94	52	1 CW	Sl.f.
			Koto	17.2	....	94	54.5	1 CW	Sl.f.
			Arrow	15.0	....	94	54	1 CW	Sl.f.
Necessary difference—2.07 bus.									

ARNOLD LEROY BIEBER, MONTMARTRE

C	7	6	Royal	8.7	26	106	54	1 CW	
			Redwing	12.9	25	105	56	1 CW	
			Victory	18.3	27	110	54.5	1 CW	Spl.
			Crystal	14.9	27	112	53	1 CW	
			Koto	15.1	26	111	55.5	1 CW	
			Arrow	12.1	26	109	55	1 CW	
Necessary difference—2.24 bus.									

WHEAT POOL DISTRICT 8

AUGUST MOLNAR, McKIM									
C	8	3	Royal	4.5	....	....	52.5	1 CW	
			Redwing	6.4	....	....	53.5	1 CW	
			Victory	6.4	....	....	52	1 CW	
			Crystal	5.2	....	....	52.5	1 CW	
			Koto	5.9	....	....	53.5	1 CW	
			Arrow	6.2	....	....	52	1 CW	
Samples bulked.									

JOHN SHABITS, TINY

C	8	6	Royal	15.1	....	....	52.5	3 CW	F.
			Redwing	7.4	....	....	55.0	1 CW	
			Victory	15.9	....	....	54	3 CW	F.
			Crystal	15.5	....	....	52.5	2 CW	F.
			Koto	13.2	....	....	54.5	2 CW	F.
			Arrow	15.1	....	....	54	3 CW	F.
Necessary difference—1.48 bus.									

FLORENCE MALAKOFF, ARRAN

C	8	10	Royal	8.2	....	....	53	2 CW	F.
			Redwing	9.0	....	....	55	1 CW	Sl.f.
			Victory	11.0	....	....	54	1 CW	Sl.f.
			Crystal	11.3	....	....	52.5	1 CW	Sl.f.
			Koto	11.1	....	....	55	1 CW	Sl.f.
			Arrow	11.8	....	....	54	2 CW	F.
Necessary difference—1.62 bus.									

WHEAT POOL DISTRICT 9

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
EDWIN ANDREW JACKSON, DRAKE									
B	9	6	Royal	7.8	24	117	53	1 CW	
			Redwing	5.3	37	76	55.5	1 CW	
			Victory	5.7	23	118	54	1 CW	Sl.i.
			Crystal	5.0	24	116	53	1 CW	
			Koto	5.6	22	118	55	1 CW	
			Arrow	6.5	24	117	53.5	1 CW	Spl.
Necessary difference—0.93 bus.									
ADAM HUBER, SEMANS									
B	9	7	Royal	2.7	....	....	52.5	1 CW	Sl.f.
			Redwing	0.8	....	....	53.5	1 CW	Sl.f.
			Victory	1.6	....	....	53.0	1 CW	Sl.f.
			Crystal	1.9	....	....	52	1 CW	G.
			Koto	1.9	....	....	55	1 CW	Sl.f.
			Arrow	2.4	....	....	53	1 CW	Sl.f.
Necessary difference—0.71 bus.									
Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes									
B	9	8	George Gibb, Esk						
C	9	10	John Cizmark, Wynyard						

WHEAT POOL DISTRICT 10

GARINER FACCA, WISETON									
B	10	4	Royal	18.9	....	....	54	1 CW	
			Redwing	8.3	....	....	55	1 CW	
			Victory	20.2	....	....	53.5	1 CW	
			Crystal	13.8	....	....	52	1 CW	
			Koto	15.8	....	....	54.5	1 CW	
			Arrow	13.0	....	....	53.5	1 CW	
Necessary difference—2.38 bus.									
ROY LESYK, BIRSAY									
B	10	5	Royal	1.0	17	128	....	
			Redwing	0.9	22	125	....	
			Victory	1.6	28	125	....	
			Crystal	0.7	23	131	....	
			Koto	2.2	19	124	....	
			Arrow	0.7	16	133	....	
Necessary difference—0.54 bus.									

WHEAT POOL DISTRICT 11

FRED BRETZ, EATONIA									
A	11	4	Royal	3.2	....	....	54	1 CW	Spl.
			Redwing	3.6	....	....	55	1 CW	
			Victory	1.9	....	....	53	1 CW	Spl.
			Crystal	2.5	....	....	53	1 CW	Sl.g.
			Koto	2.8	....	....	54	1 CW	Spl. G.
			Arrow	3.2	....	....	53	1 CW	Sl.g.
No significant grain yield difference between varieties.									
GRAHAM HERBERT WALKER, STRANRAER									
A	11	8	Royal	2.2	....	....	54	1 CW	
			Redwing	1.5	....	....	56	1 CW	
			Victory	2.3	....	....	54	1 CW	
			Crystal	5.3	....	....	54	1 CW	
			Koto	2.3	....	....	55.5	1 CW	
			Arrow	3.3	....	....	54	1 CW	
Necessary difference—0.955 bus.									
HOWARD ELGIN HAWKINS, HOOSIER									
A	11	10	Royal	6.2	....	....	53	1 CW	Sl.f. Spl.
			Redwing	2.8	....	....	54.5	1 CW	
			Victory	4.0	....	....	54	1 CW	Spl.
			Crystal	8.3	....	....	51.5	1 CW	Sl.f.
			Koto	3.2	....	....	52	1 CW	Sl.f.
			Arrow	5.1	....	....	52.5	1 CW	Sl.f.
Necessary difference—2.55 bus.									

WHEAT POOL DISTRICT 12

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
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GLEN ALEXANDER McLEOD, BIGGAR

D	12	1	Royal	11.4	55	1 CW	
			Redwing	10.3	56	1 CW	
			Victory	14.6	55	1 CW	Spl.
			Crystal	14.0	....	....	53.5	1 CW	
			Koto	11.8	....	....	56.5	1 CW	
			Arrow	13.4	....	....	53	1 CW	Spl.

No significant grain yield difference between varieties.

WALTER KEMBEL, LUSELAND

D	12	4	Royal	4.5	19	....	53.5	1 CW	
			Redwing	4.4	19	....	55	1 CW	
			Victory	5.2	18	....	54.5	1 CW	
			Crystal	5.5	19	....	53.5	1 CW	
			Koto	5.2	19	....	55	1 CW	
			Arrow	5.4	19	....	54	1 CW	

No significant grain yield difference between varieties.

PAUL RAYMOND LEES, UNWIN

D	12	8	Royal	20.2	27	119	55	2 CW	G. F.
			Redwing	10.7	28	112	55	1 CW	Sl.f.
			Victory	28.3	34	127	55	2 CW	G. F.
			Crystal	23.3	35	128	53.5	2 CW	F.
			Koto	19.5	28	119	55.5	2 CW	F.
			Arrow	21.0	29	122	55	2 CW	F.

Necessary difference—3.92 bus.

WHEAT POOL DISTRICT 13

JOSEPH H. A. EARIS, BAY TRAIL

C	13	1	Royal	4.4	18	....	50.5	2 CW	G.
			Redwing	0.14	18	....	....	....	....
			Victory	3.4	15	....	53.0	1 CW	Sl.f.
			Crystal	6.1	19	....	50	2 CW	G. F.
			Koto	2.2	19	....	54	1 CW	Sl.f.
			Arrow	5.4	21	....	53.5	1 CW	

No significant grain yield difference between varieties.

WILLIAM HAROLD BROTHIE, YOUNG

B	13	2	Royal	5.4	16	91	55	1 CW	
			Redwing	3.6	18	90	55	1 CW	
			Victory	5.2	17	94	53	1 CW	Sl.f.
			Crystal	4.4	18	95	55	1 CW	
			Koto	4.7	17	93	55	1 CW	
			Arrow	5.1	18	96	54	1 CW	

No significant grain yield difference between varieties.

HAL LEONARD SHOCKEY, VANS COY

B	13	6	Royal	15.3	22	109	54.5	1 CW	Spl.
			Redwing	10.3	23	104	55	1 CW	Spl.
			Victory	16.6	23	109	53	1 CW	
			Crystal	12.5	24	116	53	1 CW	
			Koto	14.8	23	109	54.5	1 CW	Sl.f.
			Arrow	15.8	24	109	53	1 CW	Spl.

Necessary difference—1.83 bus.

WHEAT POOL DISTRICT 14

BENNETT LLOYD GECK, KELVINGTON

E	14	1	Royal	9.5	23	....	54	2 CW	F.
			Redwing	10.0	24	....	54	1 CW	
			Victory	10.8	26	....	53.5	2 CW	F. Spl.
			Crystal	9.1	28	....	54	1 CW	Sl.f.
			Koto	10.2	23	....	54.5	1 CW	Sl.f.
			Arrow	11.0	24	....	53.5	1 CW	Sl.f.

No significant grain yield difference between varieties.

Wheat Pool District 14—Continued

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
DAVID PETRIE, LINTLAW									
E	14	1	Royal	13.7	23	105	47	3 CW	G. F.
			Redwing	14.2	23	95	54	2 CW	Sl.f.
			Victory	15.4	23	105	47.5	3 CW	G. F.
			Crystal	13.8	24	105	45.5	4 CW	L.w.
			Koto	12.2	23	105	53.5	3 CW	F.
			Arrow	13.2	25	105	52	3 CW	G. F.

No significant grain yield difference between varieties.

ROBERT WILLIAM EVANS, LIGHTWOODS									
E	14	4	Royal	4.1	13	....	49	3 CW	G. F.
			Redwing	2.0	12	....	53	2 CW	F.
			Victory	4.0	14	....	50	3 CW	G. F.
			Crystal	2.9	14	....	50	3 CW	G. F.
			Koto	2.9	13	....	50	2 CW	F.
			Arrow	3.8	12	....	49	3 CW	G. F.

No significant grain yield difference between varieties.

LAWRENCE WILLINGDON ORR, PLEASANT VALLEY									
E	14	8	Royal	10.2	26	143	51.5	3 CW	F. I.
			Redwing	7.0	22	141	53	3 CW	F.
			Victory	12.7	20	143	52	3 CW	G. F.
			Crystal	13.0	25	141	51	3 CW	F. I.
			Koto	9.6	26	143	53	3 CW	G. F.
			Arrow	9.8	25	143	52	3 CW	G. F.

No significant grain yield difference between varieties.

SIDNEY JOHN THIRKETTLE, AYLSHAM									
E	14	11	Royal	9.9	....	....	53.5	3 CW	F.
			Redwing	13.7	....	....	55.5	1 CW	Sl.f.
			Victory	14.5	....	....	54	3 CW	F. Spl.
			Crystal	14.0	....	....	54	2 CW	F.
			Koto	14.4	....	....	56	2 CW	F.
			Arrow	13.1	....	....	51	3 CW	F.

Necessary difference—2.15 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

E	14	4	Clarence Duane Benson, Wallwort						
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WHEAT POOL DISTRICT 15

JONATHAN LOUIS FRIESEN, ROSTHERN									
D	15	4	Royal	8.0	50	2 CW	F. L.w.
			Redwing	6.4	....	....	52	1 CW	
			Victory	7.3	....	....	50	2 CW	F. L.w.
			Crystal	10.5	....	....	50	2 CW	F. L.w.
			Koto	9.4	....	....	51.5	1 CW	
			Arrow	10.0	....	....	51.5	1 CW	

Necessary difference—2.11 bus.

MAURICE CYR, DEBDEN									
D	15	7	Royal	6.39	....	....	49	3 CW	F.
			Redwing	4.48	....	....	43	4 CW	F. L.w.
			Victory	9.37	....	....	51	3 CW	F.
			Crystal	11.89	....	....	43	4 CW	F. L.w.
			Koto	9.64	....	....	42	4 CW	F. L.w.
			Arrow	8.34	....	....	42	4 CW	F. L.w.

Necessary difference—2.12 bus.

GEO. N. KOSOWAN, STRONG PINE									
E	15	10	Royal	23.4	28	115	52	1 CW	
			Redwing	14.6	29	115	53.5	1 CW	
			Victory	20.0	29	114	52.5	1 CW	Sl.g.
			Crystal	19.6	30	114	51.5	1 CW	Sl.g.
			Koto	21.1	28	115	53.5	1 CW	
			Arrow	16.6	26	116	53.5	1 CW	

Necessary difference—2.57 bus.

Wheat Pool District 15—Continued

Area	Dist.	Sub-Dist.	Varieties	Yield bus. per acre	Plant height inches	Days seeding to ripening	Lbs. per measured bus.	Commercial grades	Grading remarks
BUDDY HICKS, CHOICELAND									
E	15	11	Royal	5.2	....	....	45	4 CW	F. L.W.
			Redwing	2.7	....	....	49	3 CW	F.
			Victory	6.7	....	....	44	4 CW	F. L.W.
			Crystal	9.2	....	....	47	3 CW	F. I.
			Koto	2.7	....	....	47	3 CW	F. I.
			Arrow	3.1	....	....	44	4 CW	F. L.W.

Necessary difference—2.6 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

E	15	9	Craig Caven, Spruce Home
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WHEAT POOL DISTRICT 16

JOSEPH W. MELLING, HAFFORD									
D	16	2	Royal	13.6	52	1 CW	Sl.f.
			Redwing	11.1	53	1 CW	
			Victory	11.8	....	....	53	1 CW	Sl.f.
			Crystal	14.3	....	....	51	1 CW	Sl.f.
			Koto	13.9	....	....	53	1 CW	Sl.f.
			Arrow	13.7	....	....	53	1 CW	Sl.f.

Necessary difference—1.78 bus.

ROBERT SHEPHERD, PRINCE									
D	16	3	Royal	1.2	....	....	....	1 CW	F.
			Redwing	1.0	....	....	....	1 CW	
			Victory	2.5	....	....	55	1 CW	F.
			Crystal	3.6	....	....	53.5	1 CW	
			Koto	1.5	....	....	....	1 CW	Sl.f.
			Arrow	2.4	....	....	54	1 CW	F.

Necessary difference—0.076 bus.

HERBERT ANDERSON TAYLOR, PAYNTON									
D	16	5	Royal	7.3	....	....	53.5	3 CW	F.
			Redwing	13.0	....	....	56	1 CW	Sl.f.
			Victory	20.9	....	....	54	2 CW	G. F.
			Crystal	21.3	....	....	54	1 CW	Sl.f.
			Koto	17.4	....	....	54.5	1 CW	Sl.f.
			Arrow	14.6	....	....	52.5	3 CW	F.

Necessary difference—2.77 bus.

BERNHARD JOHN TOEWS, MAYFAIR									
D	16	10	Royal	6.7	22	121	54.5	1 CW	Sl.f.
			Redwing	8.0	21	109	56	1 CW	
			Victory	8.6	21	122	54	1 CW	Sl.f.
			Crystal	7.9	22	122	53.5	1 CW	
			Koto	7.8	21	120	54.5	1 CW	
			Arrow	8.9	23	122	54	1 CW	Sl.f.

Necessary difference—0.737 bus.

Tests Discarded on Account of Severe Damage by Drought, Hail, Pests or Other Causes

E	16	10	Lloyd E. Delisle, Mildred
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CONCLUSION

The 1944 Variety Test project was carried out under conditions arising from five years of war. The labor shortage reduced the average age of the co-operators, while the restrictions on gasoline and tires reduced the amount of help and supervision that the delegates were able to give to this group of young people. In spite of these difficulties the 1944 project was carried out to as equally successful conclusion as any of the nine projects preceding it. The percentage of mortality among the tests was not high. The principal causes of failure to harvest were due to drought and grasshoppers in the dry parts and hail in the better crop areas.

The results of these tests are a source of information on comparative varietal performances and are used by the Saskatchewan Cereal Variety Committee in recommending certain varieties for the different areas. The report is also valuable to farmers in studying data on certain varieties. Besides being used by the above it is read by the supervisors, many of whom are in public school, and men who are interested in agriculture in Canada, the United States, Australia and Argentina. Due to this wide and varied circulation an attempt has been made to write the contents in a manner that will make it understandable to the supervisors, explanatory to those who have no knowledge of the general organization and yet suitable and useful for the professional man.

ACKNOWLEDGMENTS

Saskatchewan Co-operative Producers Limited gratefully acknowledges the assistance rendered by Dr. J. B. Harrington of the University of Saskatchewan, Saskatoon in planning and supervising the variety test project. The organization desires to thank the following who aided in making the enterprise a success:

Dr. R. K. Larmour, Professor of Chemistry, University of Saskatchewan, Saskatoon.

Prof. L. C. Litzenberger, Experiment Station, Bozeman, Montana, U.S.A.

Dr. L. R. Waldron, North Dakota Experiment Station, Fargo, N.D., U.S.A.

Dr. A. H. Moseman, University Farms, St. Paul, Minn., U.S.A.

The Officials of the Production Services—Plant Products Division of the Dominion Department of Agriculture.

The Officials of the Dominion Experimental Farm at Indian Head.

The Officials of the Dominion Experimental Station at Swift Current.

The Officials of the Dominion Experimental Station at Scott.

The Officials of the Dominion Experimental Station at Melfort.

The 263 Junior Co-operators who made the whole project possible when they accepted the responsibility of conducting the individual tests.

